NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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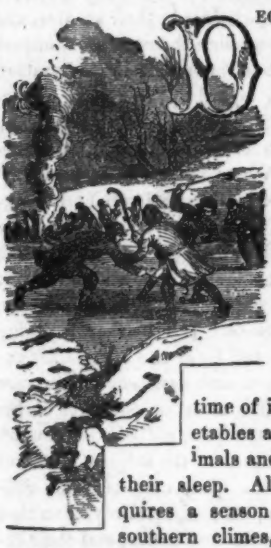
CALENDAR FOR DECEMBER.

"What's that to me, *I cannot stay*; remember,
I am the thirty first of old DECEMBER."

"In April or in May,
A pleasant garden, full of fragrant flowers,
When the fresh earth, new clad in garments gay,
Decks every wood and grove with pleasant bowers.
And now again on some DECEMBER's day
We see it marred with winter's storms and showers."



DECEMBER. The days are now the shortest. The sun, from the distant south, throws his rays upon us for a few short hours, and that so obliquely, that they produce but little impression upon the atmosphere or the earth.

Now is the night of the year,—the time of its rest—when vegetables and hybernating animals and insects are taking their sleep. All vegetable life requires a season of rest. In more southern climes, the leaves wither, and dry and fall, before they are touched by the frost, and the trees remain naked and desolate, until the rainy season awakens them into new life and activity. The trees that open their buds and expand their leaves in February and March, drop their fruit in July and August, and commence their season of rest, while with us, the trees that open their buds in May, retain their leaves till the frosts of October paint them with a hundred brilliant hues.

Every climate has its own season of rest. In tropical climates, animals and insects which require a season of rest, burrow into the earth to avoid the heat and drought, and remain in a dormant state until the returning moisture recalls them to life and action. In the regions of the north, they go into the earth, and into caves and holes, to avoid the destructive effects of the cold and frost, and hybernate until the genial breath of spring quickens the organs of their peculiar forms of life, when they come forth, each to his appropriate work.

The Summer is for man, also, the season of labor, and the Winter the season of rest, when he may enjoy the fruits of his labor, and the pleasures appropriate to the Winter, and recruit his exhausted energies for the demands of another year. The Winter is with us peculiarly the season for social enjoyment and intellectual improvement. Our long winter evenings afford abundant opportunity for visiting and social intercourse, and fireside pleasures. Evening schools, singing schools, lectures, religious meetings, and public and private entertainmants afford to all classes abundant opportunity for pleasure, or instruction, or both, suited to their respective tastes. The lectures which are now so common all over the country, have become an important institution for good or for evil. The lyceum has to a great extent changed its original purpose, which was mutual instruction, the development of the faculties and the cultivation of the talents of its members, by the mutual pursuit of scientific or literary studies.

The lyceum lecture has now become more a matter of entertainment, and our people have become as fastidious, in the choice of lecturers, as city audiences are in the choice of actors on the boards of the theatre. Instruction the most solid, sentiments the most pure and elevating, and a style the most chaste and beautiful, will by no means satisfy the demands of our exacting audiences. Startling paradoxes, sparkling thoughts, brilliant illustrations, glowing descriptions, and the music of eloquence, are demanded, at whatever cost. We doubt whether the style of lecturing now in vogue is the most useful, either to the risen, or rising generation. Lectures which

teach the hearers to think and reflect, which extend their acquaintance with nature and art, with language and men, and which enforce lessons of duty and worship, better meet the purposes for which the lyceum was intended, and for which it is needed. It is, and should be, one of the means of education in the community. When it is made merely a source of amusement, like the theatre, and the opera, let it be so understood, and so called. Let it take some other name, and fall into its own proper class, and not, under the guise of a false name, draw in to its support those who are seeking instruction, and not mere entertainment.

We have no objection, certainly, to public or private amusements, when properly conducted, but we are sorry to see an institution capable of conferring so much benefit upon every community where it is sustained, perverted from its high end and purpose. It does no good to complain of the managers and curators of our lyceums. They will cater to the tastes of those who elect them. The only way to restore the Institution to its true purpose, is to *elect for its management men who* WILL *make it what it should be.* Farmers and their families are interested in this matter, for they aid in sustaining the lyceum, and they should not leave its management wholly to the young men in the villages, who are too apt to prefer amusement to instruction.

Our Winter Schools commence with this month. Parents of all classes and occupations, should unite to secure for them that success which their importance demands. Where the old system of *prudential committees* is continued, the chief responsibility rests with the primary district meetings. They should appoint the most intelligent, public spirited and independent men among them, to select and aid the teacher, and make the necessary arrangements for the season. They should never elect a committee man in order that some one in the district may be employed to teach, and the money be kept in the district. This is a miserable and narrow-minded policy. As a general rule, teachers, and especially young teachers, should not teach in the district where they reside and have attended school. It was recorded as one of the experiences of human life, more than eighteen hundred years ago, that "a prophet is not without honor but in his own country, and among his own kin, and in his own nouse," and the experience of the eighteen hundred years since, has not shown any change in human nature, in this respect.

Notwithstanding the position and permanence given to town committees by the statutes of some States, the results of our schools must and will depend mainly upon the prudential committees. Town committees can have but a limited control over the matter, until they have the appointment of teachers. In all our larger towns, this power is put into their hands. Where this is not the case, districts should appoint men, who will not regard district limits, relationship, or any outside influences, but procure the best teachers within their reach.

When the school has commenced, see that your children are well supplied with books, and are at school every day, and *punctually* at the opening hour. To the older scholars, those whose time is most valuable at home, and whom, therefore, you are the most often tempted to keep at home to assist you, this winter is of inestimable value. Perhaps it is the last season they will attend school, and nothing but absolute necessity, should be allowed to break in upon their time, and interrupt their studies. They should be furnished with every facility, and encouraged to make the best use of their days and evenings to acquire that knowledge which can alone fit them for usefulness and respectability.

The introduction of a reasonable number of new books into schools increases the pleasure and interest of the scholars in their studies, and parents should not grudge the cost. Committees should use their best judgment in this matter, without paying any regard to the written or personal application of publishers or their agents. Encourage teachers in the discharge of their responsible duties. Visit your school occasionally, and speak a word of commendation to both teachers and pupils. In this way you may do more good than you can be aware of. The teacher who feels that he has the countenance and aid of the parents, will labor not only with more pleasure, but with more success. The teacher is doing your work for you, and he or she is certainly entitled to your support and assistance. Be sure you never throw hindrances or obstacles in his way. We have written quite a dissertation upon school management. But the subject is one of immense importance. The care of your children is of no less importance, certainly, than that of your calves and colts and lambs, and their future happiness and respectability will amply repay all your efforts in their behalf. A good education is the best investment you can make for them. It will make them not only better and more useful men, but better and more useful *farmers.* Is not this an appropriate field to cultivate in December? Does not it promise as rich returns as any field of your Summer culture? As the field crops had your earnest care, and brought you ample reward, let this, also, receive your special attention, and your reward shall be greater, even than in those.

DECEMBER. The close of the year is at hand—a fitting goal upon which to pause and reflect.

If thou hast travelled with us, kind reader, through these twelve essays, one for each Month, and hast not found the way wearisome and dull, there must now be a sympathetic chord between us. We trust that it shall not lapse into indifference, but that our mutual readings and writings shall tend to illumine all our paths, and make them paths of profit and peace.

For the New England Farmer.

PRUNING FRUIT TREES.

FRIEND BROWN:—On or about the first of last May, wishing to till a portion of my orchard, as I do every year, for the benefit of the trees, I found a few that needed pruning, which I commenced to do; but became a little suspicious that I might be doing wrong, for as soon as the first few limbs were taken off, the sap flowed from the wounds so freely that it ran down the trunk to the ground. Thinking it would soon stop, I kept on with the operation, and trimmed four or five good sized, valuable trees, considerably, and others but little. Four of the five that were trimmed the most, were Rhode Island Greenings; the other a natural, late fall apple. The wounds on the last mentioned tree did not run much at first, and soon stopped; but the Greening trees coutinued to run all summer, and have not entirely done yet. The wounds were painted over soon after they were made, but the paint did no good, soon coming off—and they have been, and some of them still are, covered with a bitter filthy gum, and the bark from the wounds downwards, in some instances to the root, is stained, or turned black, where the sap has run down, giving it a very unhealthy appearance.

On looking particularly about my orchard, last summer, with a friend, we found several trees that had been pruned, some one and some two years before—with the wounds still moist with the flowing sap; but none of them had the appearance of having flowed so profusely as those that were pruned last May. I am not certain when the last mentioned pruning was done, but presume it was in May, or the first of June, as that is the time that I have usually taken to plow my orchard, and look a little to the welfare of my fruit trees.

Now can you, or any one of your numerous correspondents, explain this matter, and show me and others, wherein I have erred, that we may do better for the future, and tell me what I shall do to save my trees? I am fearful that they cannot live; or if they do, that they cannot bear fruit with such a drain on their life-blood as they have had to sustain since they were pruned, but a few years at most, if they are not ruined already. THOMAS ELLIS.

Rochester, Mass., October, 1858.

REMARKS.—There is no doubt, whatever, on our minds, what has caused the appearance of the trees which our correspondent describes—*he pruned them at the wrong season of the year*, when the sap was in great abundance, and very thin. Nearly all the orchards in New England that are twenty-five years old and upwards, present the same appearances in greater or less degree. Our fathers were an exemplary set of gentlemen in a great many things, no doubt, but they did not know everything. They probably pruned apple trees in March and April, because it was convenient, and as they did not graft and bud, and produce as many valuable trees as we do now, they cared less if they did die, and would supply their places with another set of trees of natural fruit. But with a clearer light, their sons ought to know better than to begin to destroy their orchards just as they are coming to maturity. Many of them *do* know better, but with precisely such examples before them as Mr. ELLIS describes, still persist in the error. Well, let them do it, if they will, those who cultivate judiciously will reap the larger profits.

Who can tell Mr. Ellis how to save his beautiful trees? That is the question with him. The flowing sap from these wounds in the spring, will burst off paint, shellac, or anything else we have ever known tried. It is a disease to which we cannot minister. Who can? But we can tell you how to *prevent* it—and prevention is better than cure. Prune from the 15th of June to the 10th of July, as the best time, or in October, after the leaves have fallen.

SHIPPING APPLES TO EUROPE.—The most successful exporter of apples from this country, R. L. Pell, of Ulster County, New York, owes a considerable portion of his success to careful picking and careful handling. The fruit is picked, one apple at a time, from the tree; when transferred from the hand-basket to the larger one, only two are taken at a time by hand. These baskets are then drawn, not even on a spring wagon, but on a sled, to the building for storing, so as to secure them from jolting. When packed in barrels they are again taken two at a time by hand. They are drawn on a sled to the North River, and lifted by two men on board the steamboat, to be taken to New York and shipped. When lowered on shipboard they are caught, one at a time, on men's shoulders, and carefully carried to the coolest part of the ship. At London they are carried by two men on a hand-barrow, with the same care that we carry a costly looking-glass. With these precautions they arrive in London in better order than market apples usually reach our own cities, and having been care fully selected, sell for $10 per barrel, and some as high as $20.

THE CALIFORNIA CULTURIST.—This is the title of a monthly, published at San Francisco by Messrs. WADSWORTH & TURRELL, and edited by W. WADSWORTH. It is printed in a very high style of the art, handsomely illustrated with engravings of fruits, cattle, &c., and the articles of which it has been made up so far, are well written and upon important topics.

For the New England Farmer.

FARMING LIFE IN NEW ENGLAND.

MR. EDITOR:—I have been waiting some weeks in the hope that you or some of your able correspondents would do justice to an article that appeared under the above title in the August number of the "*Atlantic Monthly.*" But I have waited in vain. The only response that I have seen, is from a lady in New Hampshire. She, justly shocked at the distorted and repulsive picture of her sex in the farm-homes of New England, far from thanking the writer for his sympathy, cries out in indignant tones, "save us from such friends." Her notice of the article affords one proof, which the editors of the "*Atlantic*" will not surely reject, that the "child-bearing women" in the farmers' homes, are not cared for less than the occupants of the "farm-yard and State," and that is, that the Monthly has found its way to Brentwood, and been read and appreciated by one of the "ceaseless ministers and servants of the home." Whether she is now enjoying a vacation, having been "for months dismissed from labor," or whether she is one of those rare exceptions, for which there is reason that "Heaven be thanked for a merciful interference with the operation of its own laws," I know not. But I should like to "look at her hands," and "look at her face." Can it be that she "secures less consideration than the pets of the stall?" But thanking her for her spirited rebuke, in behalf of our sister farmers, I will, with your consent, occupy some space in your columns, in behalf of our brother farmers.

It was with no little surprise that I read the article referred to, in the "*Atlantic*;" I was surprised and ashamed that a New England periodical of so high intellectual character, and so extensively circulated both in and out of New England, should admit into its pages an article so crowded with false views, so degrading to New England character and reputation, and tending to do so much injury to the best interest of New England. Had it appeared in some paper south of Mason and Dixon's line, in reply to some exaggerated picture of slave life, by some "northside" man, it would have been received as a matter of course.

You will permit me to say, Mr Editor, that I was mortified to find a portion of this same article quoted into the *New England Farmer*, thus giving to it your sanction and approbation so far as a quotation can give it. I am afraid that editors sometimes forget that one of the meanings of the word quote, is "to laud," "to commend," and that they inadvertently give their sanction to sentiments that they do not really approve. I think the quotation referred to must have found its way into your paper without your knowledge, for I cannot believe that you deliberately intended to give currency to notions so entirely at war with facts, and with the general tenor and style of your paper, and with the feelings and spirit of your life, merely because they were found in a popular magazine, or were written in a good style. I am disposed to give the writer all the credit he merits, and I do not hesitate to say that he has a fine command of language, and constructs his sentences with a good deal of skill. He writes with a bold hand, and in a brilliant style, and has the ability to "make the worse appear the better reason." When facts are wanting, he can readily draw upon his imagination. His article may be called good writing, and it was this, we opine, that secured it a place in the respectable journal which it disgraces.

He sets out with affirming, that "New England does not produce the bread she eats, nor the raw material of the fabrics she wears." What then? Is she not increasing in population and wealth with wonderful rapidity? Is it not to her credit, that in spite of her hard soil and rugged climate, she is increasing in all the elements of material and social prosperity? What portion of our country, indeed what portion of the world, exhibits so rapid an increase in the means of social comfort and intellectual culture as New England? And does not this increase depend upon, and afford evidence of a corresponding increase in material wealth? Do England or Belgium or Holland produce the bread they eat, or the raw material of the fabrics they wear? But will they not compare well, in wealth, in the elegancies and comforts of life, in intellectual elevation, and in all that renders life desirable, with any other parts of Europe? Why do they not produce the bread they eat, and the raw material they use? Simply because the circumstances in which they are placed, and the character of their people, afford them the means of more profitable employment—employment that furnishes bread and clothing to a population beyond the capacity of their soil to supply. Because there have been "positive advances in agricultural science, and in the means and modes of farming," will this fact change the character of New England people, or her soil and climate?

But has she not availed herself of these "advances" to a greater degree than any other portion of the country? Is it not owing to these very "advances" in a great measure at least, that she is able to sustain double the population that she did forty years ago, and that notwithstanding the immense drain upon her wealth and energies, to furnish the sinews of progress in the new States? And does she not sustain this duplicate population in a condition of much greater comfort than she did at that time? The writer evidently intends to convey the impression that the "advances in agricultural science, and the improved means and modes of farming," are generally accepted and practised by the mass of cultivators in New England, and that they are deriving from them the whole benefit which they are capable of yielding, and yet they are undergoing the process of "physical and mental deterioration." But is the impression he would convey justified by facts? If the "advantages of thorough draining are universally recognized," is thorough draining universally applied, and are New England cultivators deriving from it the benefits it is capable of affording? Has one acre in a hundred that would be benefited by the process, been subjected to it? Are "tiles everywhere for sale" at prices that bring them within reach of the mass of farmers? I am not aware that they are manufactured in more than three places in New England, viz., Whately and Manchester, Mass., and Exeter, N. H. They are also imported from Albany. But the price of freight in most parts of New England amounts to a prohibition

of their use, and to intimate that the farming lands of New England are enjoying the full advantage of thorough draining, is as preposterous as it would be to say that because the Bible has been translated into the dialect of Hindostan, and a few missionaries have been established in the peninsular, therefore the Hindoos are enjoying all the advantages that Christianity is capable of affording them. Our neat stock has been "regenerated," by "the pick and pride of foreign herds," to a much greater extent than our lands have been improved by drainage, but very much yet remains to be done even in this department. In all the departments of agriculture, I believe that the "results are" fully "commensurate with the means" actually applied. More than this, it would be absurd to expect.

But were it true that New England farmers had availed themselves of the "advances in agricultural science, and the improved means and modes of farming," that thorough draining, improved farm implements, and natural and artificial fertilizers, were universally employed—that regenerated neat stock, and Morgans and Black Hawks filled our stalls, and agricultural journals and hand books were upon every farmer's table, would not this prove that farming, so far from being deteriorated, was going forward, upon the "full tide of successful experiment?" Were this hypothesis an actuality, we should want no further witness to convict of falsehood the assertion that farming is deteriorating in New England. So far as it is an actuality, it proves that farming is advancing towards its true ends and aims.

If "the life of the New England farmer" ever has been, and still is so "widely different from what it might be and ought to be," how is it that "in the quiet evening hours," "visions of the old homestead" and the pleasant associations of early life come to the "successful merchant," the "professional men" and the "author," to "all minds that can apprehend life's true enjoyments," draped in such a costume of "rural beauty" that "the heart will breathe a sigh, and the eye drop a tear, and the voice say," "it were better so?" If even "the imagination weave the picture," the stern experiences of the past which drove them from that life, "which had nothing attractive and beautiful and good in it"—that "mean and contemptible life" all whose "economies, associations and objects were repulsive," would correct the hand of the artist, and would interweave with the warp which he had laid, a woof of dark and sombre hue, drawn from the life of the man who had there "become a beast of burden." If to the best minds in the city, in their best hours, there come such visions, accompanied with longings and resolves that "by-and-bye, in some golden hour, that life shall be enjoyed," if to such minds, there is ever present the thought, that "the farm is nearer Heaven than the street," can it be possible that the memories of the old homestead, which form the basis of such visions, are made up of scenes, and actors, and employments and motives, which have the direct tendency to depress the intellect, blunt the sensibilities, and animalize the man? Are these the memories of a life which is a "pestilent perversion," "a sale of the soul to the body," a life whose "natural and inevitable result is mental and physical deterioration?" The writer, with some vague idea of a good that has "survived the fall," attempts to account for the fact that such longings for rural life, and such visions of "the quiet scenes of nature," visit the men of the city, by referring to a "reminiscence of the first estate when man was lord of Eden." But when the Indian forms visions of a future paradise, the poet tells us, that he "dreams of abundant game, and that his faithful dog shall bear him company." He does not dream of "gorgeous palaces," nor of the luxuries or refinements of civilized life, but his imagination weaves into his web the scenes and the pleasures with which he is most familiar, and to which his heart is most strongly alive, and so it is ever, "as face answereth to face in water, so the heart of man to man." If farm life and rural scenes in New England were not remembered with pleasure, if these scenes were not peopled with loved and lovable friends, this life and these scenes would not constitute the prominent objects, the foreground in the pictures woven by the imagination, when disgusted by the monotony and frivolity of city life.

I will not attempt to follow this writer through all his vagaries. He assumes as a fact, that farm life in New England, has deteriorated, and is deteriorating, and that the cultivators in New England are undergoing a process of "both physical and mental deterioration." This state of things, which a more extended acquaintance with his subject would convince him is absolutely false and groundless, he attempts to account for, and it is not surprising that he is compelled to draw upon his imagination for facts and illustrations to sustain his position. He introduces the contrast between the two extremes of Irish life, as the basis of an illustration of the difference between farm life and city life. Had he told us in a bold and honest manner, what are the "other obvious causes" which "have had something to do" in producing this "contrast," instead of leaving us to infer that the chief causes are continued labor, and "the difference in food," he might have more satisfactorily accounted for it. The account of the farmer and the farmer's home, I must reserve for a future occasion.

For the New England Farmer.

BEEF VS. CORN.

MR. EDITOR:—I have been a constant and interested reader of the *Farmer* for seven years, and I scarcely know how I could get along without it; but from the views of some of its correspondents, I respectfully differ. I think the article by W. A. Alcott, in the *Farmer* of September 25, entitled "Corn versus Beef," does not present a fair view of the subject in all its connections, and that it would not be good economy for the farmers of New England, at least, to follow its teachings.

Domestic animals form the basis of all farm improvement, and there is a close connection between the animals a man keeps, and the crops he raises; but it would not pay to keep them simply to change food into manure, throwing the carcass away, because this or that dietetic reformer says meat is unfit for food.

The Doctor quotes a writer who says it requires ten pounds of corn to produce a pound of

beef; allowing this to be correct, but a small proportion of the beef that is slaughtered is produced by corn, much of it eating no provender at all; and cattle that are stall-fed are only finished off on corn after they have attained their full size on grass and hay. The same is also true with regard to pork, it being raised chiefly on the products of the dairy and refuse articles of the orchard and farm, until fattening time.

The doctor probably remembers the old Latin fable, which, I think, applies well to this subject; for if we cut off or refuse to feed our domestic animals, our corn and all other crops will very soon fail. This would materially change the writer's figures, and I think if the connection between corn and beef could be fairly traced out, that beef would be found an economical article of diet. Dr. Alcott says, "that no person whose taste is pure and unperverted would choose flesh for food." I should presume that the taste of a child one year old, is natural and unchanged, and I have known such to choose meat in preference to anything else. The doctor, perhaps, will say the child inherited a perverted taste.

Naturalists determine the food of animals by their teeth; they say that the teeth of man indicates a mixed diet, and we may safely follow nature, and find meat not only agreeable but healthful.

Again, as among animals, so among men, we find that the dominant races are those that eat flesh; and although the fighting principle is often carried too far, yet when properly controlled by reason, it is simply energy and force, which are necessary to success in any occupation. K.

Kennebunk, Oct. 8, 1858.

For the New England Farmer.

KILLING ROBINS.

MR. EDITOR:—Mr. J. W. P. Jenks has given the public an account of the food and habits of the robin; it is all very good in the time. But, I would ask, if any bird in the same season of the year does not do a similar amount of good to the farmer and fruit-grower? Is it possible to do any injury, when the ground is in a frozen state, except to scatter seeds, injurious ones, too, which will far overbalance all the good that they may possibly do. I was much pleased to see the communication in the *Farmer* of May 1, from "J. B. R.," of Concord. I perfectly coincide with him in relation to the destruction of the robin. Self-defence is the first law of nature, and wild animals and birds, which are a positive injury to man, it is his right and duty to destroy, "Legislative enactment notwithstanding." The law forbids manslaughter, yet self-defence permits it; man's title deeds allow him the ownership of all the animals and birds, both destructive and harmless, that infest his premises, yet the law declares, that he shall suffer its penalties, if he destroys one of them. If it was the intention of the law to put an end to the wanton destruction of all birds, then the law is a just one; but if it was intended that a land-holder should harbor a band of robbers, then it is an unjust one.

Let us enumerate some of the injuries that we are every year receiving, and some of them are entailed even to the third or fourth generation of man. The destructive propensities of the robin are such, that, after doing all the damage he possibly can in the garden, by partaking, not alone, of what he may need, but by pecking at all the fair and sound fruit, commencing with the strawberry, raspberry, cherry and peach; none even of the new and choice varieties of the blackberry can be gleaned in his neighborhood, as they ripen so slowly, that his dividend is both principal and interest; after doing all this mischief in the garden, he betakes himself to the rich pasture land, and there riots in untold injuries to us. He is the enemy that sows tares when we are in the land of dreams, and our Legislative bodies are hedging him around with the impregnable barriers of the law. An enumeration of his labors in pasture land will not be inappropriate here. First he distributes the seed of low blueberry, next huckleberry, wild blackberry, barberry, savins, garget, &c. Red cedars, sweet ferns, wild cherry, are also found. This may be questioned by some; to such I would advise that they would examine their droppings, which may be abundantly found on walls, and they will find the germ of the seed is not killed in passing them. Most of the pastures in the southeast part of this county are full of ledges, or very stony at least, so much so, that it is a very serious undertaking to plow them. Mowing only aggravates the disease, causing the roots to sprout at their termini, which greatly aid the spreading of plants whose seeds have been scattered by birds. The pasturage of to-day requires two more acres for each cow than it did years ago, before legislating cost so much. Then June butter was about one-half as much in price as now, and pasturage one-third more per acre. Pasture land in my immediate neighborhood can be purchased at $25 to $30 now, formerly worth from $35 to $40. Fielding, twenty years ago, was worth $40 to $50, now the same cannot be obtained for less than from $100 to $125. Is it a wonder that milk is high and scarce, when our pastures are fast filling up with useless briers and bushes, and as rapidly deteriorating to wild wastes?

The question arises, how shall we eradicate them? If the robin destroys the larva of the curculio, when do they do it? It is not accomplished in the winter season during their absence, and in the spring their food consists almost entirely of the seeds of noxions weeds which they scatter over the gardens, and angle worms, which are nature's true subsoilers. Did the robin destroy curculios to ensure us a good fruit crop last season, or for the past three years? The robin is almost the only bird that is plenty in this vicinity, while all others are the prey of sportsmen, which should have been included in the catalogue of useful birds; if so, some good might have been done by preserving their lives. The enactment of the Legislature has been a dead letter, in my opinion, as far as the penalties are concerned. It raised up public opinion, and public opinion saved the robins, and destroyed other useful birds. J. S. NEEDHAM.

West Danvers, 1858.

HOW TO DO GOOD.—Dr. Johnson wisely says: "He who waits to do a great deal of good at once will never do anything. Life is made up of small

things. It is but once in an age that occasion is offered for doing a good deed. True greatness consists in being great in little things. How are railroads built? By one shovel of dirt after another; one shovel at a time. Thus, drops make the ocean. Hence, we should be willing to do a little good at a time, and never wait to do a great deal of good at once. If we would do much good in the world, we must be willing to do good in little things, little acts one after another; speaking a word here, giving a tract there, and setting a good example all the time. We must do the first thing we can, and the next, and then the next, and so keep on doing good. This is the way to accomplish anything. Thus only shall we do all the good in our power."

HOW TO GET SICK.

R. H. M. writes, "I slept in a room one night which had been washed out during the day, and was not quite dry. I awoke in the morning with a sore throat, which has continued ever since." The result is he has had to abandon his theological studies, and place himself under treatment, after having lost two years' time.

H. M. writes, "I went to sleep, in a warm day, on the top of an ice-box, and have never been well since." He shortly after died of consumption.

T. H. took a very severe cold, conversation was laborious, but he had an appointment to preach, and felt as if he must fulfil it. He made the attempt, but utterance was attended with a pricking pain in the throat, and then a dull hurting came on in the throat, with subsequent "hemming" and fruitless "clearing." He was permanently disabled.

A modest man walked until quite fatigued, and perspiring freely, entered an omnibus, and sat next a lady who opened a window to get some fresh air for herself. He soon became chilled, and was ill for three weeks.

H. P. got up at night and hoisted the window to look at a burning house; the cold air darted in on the unprotected body, just from a warm bed. A twelve-months' illness resulted in dropsy.

A strong, hearty man came in on a hot summer's day, immediately took off his coat and hat, and sat in the open window, looking out upon a beautiful garden, over which the ocean breezes came to fan him. Before he was aware of it he was chilled, was attacked with inflammation of the lungs, and died within a week.

A delicate young lady, an invalid, a patient of ours, in an excursion with several others, was "overtaken" by nightfall, and by a young gentleman. They were in a boat, and the boat was in the mud, the tide having gone out on a visit to the sea, and "there they were," a mile from shore, and several miles from home, that mile was extraordinarily long and short. Only think of it! A whole mile over a Jersey flat! covered with water, mud and bulrushes, carrying in the arms, a young eighteen, with one of the sweetest voices, faces and forms, to be in or out of Jersey. Bespattered with mud, dripping with fog, and dew, and slush, steaming with perspiration, and wearied with hunger, thirst, and fatigue, delighted and excited by the novelty of the thing, they reached home at midnight. The next day she "didn't have anything the matter with her at all!" Why? She had taken lessons of us. Instead of pulling off her bonnet and shawl, and sitting in a cool place, or instead of undressing at once, and thus letting the air check the perspiration, she went into a warm room, closed the doors and windows, sat some moments, laid aside the garments one by one, at intervals, and when cooled off, in the course of half an hour, retired to sound sleep and a healthful awaking.

Another man rode three miles with a little child sleeping in his lap, which, pressing against his stomach, caused unusual warmth there. It was a chill, raw November evening. In walking a hundred yards to the house, the child moving slowly and wind blowing, the whole abdomen was chilled in a moment. The next morning he awoke with the ominous pains of peritoneal inflammation, which is often fatal in three or four days.

A man had some accounts to draw off in midwinter. It was a cold night. He was greatly interested; time went, and the fire too. He felt a little chilly, but thought he would soon be done, and that it was not worth while to rebuild the fire. It was near one o'clock before he left for home, and he reached it most thoroughly chilled. Next morning he had pneumonia, and never got well.

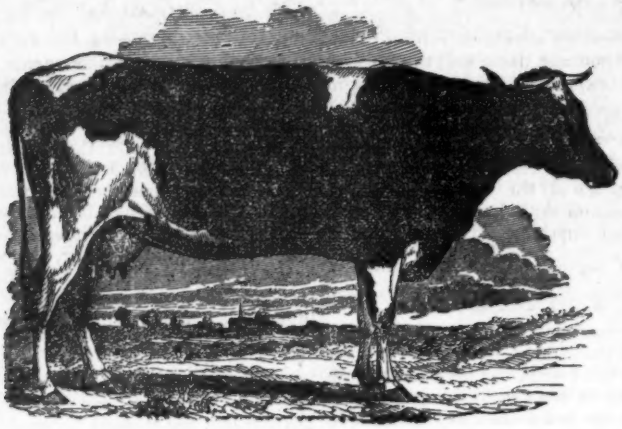
Remaining at rest for hours in a cold room, in raw, cold, damp weather, is enough to kill three men out of four by bringing on congestion of the lungs, lung fever, or inflammation of the lungs. Clergymen and lawyers often sacrifice their lives by speaking in warm rooms; the body debilitated by the effort; the skin in a state of perspiration; the lungs all heated up; and thus hungry, tired and depressed in body and mind, go out into the cold air to ride or walk home—and to die in the very bloom of health and manhood. And yet, to know these little things, there are multitudes who hesitate to give a dollar a year, when on the knowledge of them, human life is daily hung, and for want of it daily lost.—*Hall's Journal of Health.*

For the New England Farmer.

POTATOES.

MR. EDITOR:—As much has been said of late about the destruction of the potato, I thought I would call attention for a moment to the means coming into use for increasing them. At the late fair at Syracuse "Potato Planters" were exhibited, which are said to save three-fourths of the labor of planting;—and I have seen in the field "Potato Diggers," the same that was pictured in your paper a few weeks since. I liked the plan of this implement very much—but it was either deficient in strength; or the laborer who guided it was deficient in skill, in the use of it. He permitted it to settle so deep in the earth, that it would not support the burden that accumulated upon it; and twice it had to be taken away for repair. When it did work, it threw out the potatoes as fast as half a dozen hands would gather them up. The maker informs me, that he is about to prepare castings, that will obviate the difficulty complained of; but I fear they will not come to hand, until after the potatoes should be in the cellar. P.

Oct. 15th, 1858.



IMPORTED DUTCH COW.

The above is an accurate illustration of a Dutch cow, imported from Holland in 1857 by Winthrop W. Chenery, Esq., of Watertown, and drawn and engraved for C. L. Flint's new work on MILCH COWS AND DAIRY FARMING, from which we derive the following notice of this celebrated dairy breed.

The Dutch is a short-horned race, which, in the opinion of many, contributed largely about a century ago, to build up the Durham or Tees-water short-horns. The latter breed was at that time frequently called Dutch.

Dairy farming in Holland became a highly important branch of farm labor at a very early date, and a large and valuable race of cattle existed there, long before the efforts of the most noted breeders began in England; dairy farming being held in the highest respect in Holland, as being the means by which a large proportion of the population is supported, it is carried to greater exactness and perfection than in any other part of the world. The Dutch are especially particular in the breeding, keeping and care of milch cows, and hence the Dutch, as a race, is eminently adapted to the dairy. The Dutch cow may indeed be taken as the type of a truly dairy *race*. She usually unites all the marks which indicate the production of milk, and is superior to the Swiss cow in her yield. She is, perhaps, a little too thin-skinned, and subject to annoyance from insects and sudden changes of weather.

The Dutch cow eats largely in proportion to her size, but will often produce double the cost of keeping in her large and generous yield.

The prevailing color of the Dutch cattle is black and white, but often red and white, variegated. Cattle of only one color are no favorites. The Dutch cattle laid the foundation of the native or common stock of New York, and to this day a cross with the short-horn and Dutch is regarded there as one of the most desirable for cheese dairies.

For the New England Farmer.

ROOT CROPS.

MR. EDITOR:—I have long promised myself that I would communicate, through the *New England Farmer*, my experience the last winter, in feeding English turnips to stock.

In the autumn of 1857, I raised from among my corn four hundred and fifty bushels of English flat turnips; these, I commenced feeding to my stock early in the month of November, together with wheat straw, and from the time of my first feeding, those of my young cattle, composed of two and three years old, had no other fodder than the turnips and wheat straw, until after the fifth of the next March, at which time they were in fair beef condition. The expense of raising and harvesting these turnips did not exceed three cents a bushel; and the additional cost of feeding roots, to stock, if a root-cutter is used, is very little. I feel perfectly confident that the statement made in your letter from Newport, N. H., in the October number of the *Farmer*, "that the farmers of New England, with little or no more labor upon their farms, can double their capacity for keeping stock by the gradual introduction of root crops"—is perfectly true. And I would earnestly urge our farmers to imitate this well-tested system of husbandry, so long practised by English agriculturists.

DANIEL NEEDHAM.

Hartford, Vt., Oct. 11th, 1858.

LETTER FROM MR. BROWN.

A Talk with the Farmers on the Results of Intelligent Labor—Lancaster a Beautiful Town—Old Elms—Thoughts Suggested—A Good Farm—New Modes of Preparing Roots for Cattle—A Milk-Room—A Well-Balanced Family.

Lancaster, Mass., Oct. 15, 1858.

DEAR SIR :—I came to this place yesterday by invitation of the *Farmers' Club* of this town, to talk with the people upon agricultural matters, and to take a look at some of the farms lying upon the banks of the Nashua river. The meeting took place in the Town Hall last evening, where a numerous and exceedingly attentive audience was present. The subject discussed was —"*The results of Intelligent Labor, and the Influences of Farming, as an Occupation, upon the Social Relations of the Family.*"

This forenoon I had opportunity to ride through some of the streets of this beautiful old town, look at the substantial residences which line them, with their noble elms, ash, and maple trees,—

> "And I said, if there's peace to be found in the world,
> The heart that is humble may sure find it here."

I doubt whether the wide world can produce out of New England such perfect little Republics as the rural villlages which stud this rough region in every direction. Rich gems in themselves, but a thousand times richer for the rugged surroundings in which they are set. What can man ask for more? Blest with a congenial climate; plenty rewards his labor; all his rights protected and his person secure under temperate and equal laws; quick and remunerating markets for his products; the school, academy and college at his door, and the sound of the "church-going bell," sweetly pealing over hill and valley, forest and field, reminding each that the Sabbath has come when they may commune together, and more directly and earnestly lift the heart's gratitude to Him who sends the early and the latter rain, and crowns the year with His goodness. But this is not all. Wide avenues stand open for him to go out and see all the world,—while all the world comes daily to him in the morning paper; he curbs the elements and makes them subserve his will, and sends the lightning along horizontal lines, with messages of love, or the results of negotiation, arbitration, or trade, as he pleases. All artisans and tradesmen, and professions, and cunning workmen in all things stand ready to do his bidding. He needs but one thing,—*To be Contented.* Such were my thoughts as I rode under ancient elms, whose branches, spreading over my head, formed an arch more grand and imposing than ever graced ovation to Roman conqueror. But they are passed now, and I must tell you about these green meadows on Nashua's banks, and the villas or homesteads to which they belong.

It was my good fortune to "tie up," for the night, with Dea. CHARLES HUMPHREY, a social, intelligent and progressive farmer, wide awake to his own interests, but having a heart and hand to assist in making the world agreeable to all coming within his influence. I have rarely walked through a set of farm buildings, or over a farm, with more interest and profit than his. He will winter forty head of cattle, all ranged on the south side of the basement story of his barn, with wide rolling doors at each end, set with glass to admit light and air. They are tied with chains to common stancheons, which gives them so much room as to allow them to lick each other, and to change their position considerably. In front of them, and coming down to within two feet of the floor, is a rack for feeding hay, much the same as one used for feeding horses, and into which the hay is fed from the barn-floor above. The two foot space below the rack is left for the purpose of sliding under a half barrel, from which the cattle eat roots, &c. Opposite the cattle, and about the centre of a narrow room some 80 ft. long, a sixty gallon kettle is set, and immediately over its edge and around the kettle 80 feet of iron pipe is coiled in brickwork, with apertures to admit the water from the kettle to touch them.

Near this kettle is a brickwork cistern, in the upper part of which is a trough for cooling milk in cans, both of which are supplied with pure spring water passing in by an aqueduct, the water flowing over from the milk cooler, when full, into the cistern. The kettle is lower, and within three feet of the cistern, so that the pipe around it is always supplied with water by its own gravity. Into this kettle are thrown apples, roots of all kinds, pumpkins, &c., and boiled rapidly and cheaply, and are then passed through a small mill placed over a trough, into which they fall a perfect *mash.*

Hot or cold water may be admitted by turning a cock, to bring the mass to a proper state of dilution and temperature, when, a little corn meal being added, it is fed about four pails full, night and morning, to each cow. This is given them immediately after being milked; then they are fed with long hay, as much as they will eat with a good appetite, and this is the bill of fare for the whole winter. The cows have little or no water beside this, and are only turned into the yard occasionally, during the middle of bright, soft weather.

Mr. Humphrey says that under this regimen his cows continue healthy, and yield a satisfactory flow of excellent milk. He sells from 30 to 40 gallons of milk, daily, at Clinton, at five cents a quart in winter and four cents in the summer.

In another portion of the same basement, is

a room for setting milk to raise the cream. It is about eight feet wide and fifteen long. On each side are firm plank shelves with strips on the edges so as to make them water-tight. Into these large but shallow tin pans are set, and during hot weather cold water is admitted by a cock, and when the temperature is too low, hot water is supplied by the same means. The bottom of the cellar is brick and cement, and in very hot weather the whole floor is flooded with pure, cold, spring water. The milk remains sweet two or three days in this room and 7½ and 8 quarts will make a pound of the best butter. Beside this room, there are in this basement, capacious rooms for roots, one to store *a hundred ox loads of muck* for winter use, and racks, and conveniences for cows in calf. This lower story is unique —it is certainly unlike anything of the kind I ever saw before, and it will not fail to afford valuable suggestions to all persons who visit it, and who are engaged in producing milk for market.

Connected with the barn I found a cider mill of new construction, where the apples can be ground and a barrel of cider made in two hours; also a thresher, a saw for sawing wood at the rate of a cord an hour, a paint mill, a large and commodious workshop, with proper tools, and many contrivances indicating skill in all sorts of handicraft as well as in cultivating the soil. I saw many other things on this farm that interested me unusually, but as my letter is getting long, I must defer them to another time. I have never before met a man who comes up so nearly to my ideas of the value and importance of *muck as a fertilizer* as does Mr. Humphrey. He warmed into eloquence in expatiating upon its virtues; and well he might, for he has gathered harvests of glittering gold through its influence, on land that he would gladly have sold a few years since for $5 an acre! But all this, together with his experience with mowing machines, and his success in the propagation of trout, I must for the present omit.

The most charming part of my visit, however, was not derived from these things, but from the manners and conversation of the well-balanced family into which I was thrown. It was refined, harmonious, intelligent; the daughters, as well as the sons, engaging freely in a conversation relating entirely to the affairs of the farm, and giving ample evidence that they had resolved to "magnify their office" to the extent of their ability. But I must desist,

Very truly, yours, SIMON BROWN.

JOEL NOURSE, ESQ., BOSTON.

A FINE HEIFER.—Mr. JOSIAH A. WYMAN, of Chelmsford, Mass., has a beautiful pure Durham heifer, three years old in November next, estimated to weigh 950 pounds. She calved the first day of September—the calf sucked four days, and she has averaged 13 quarts of milk per day since. He has refused $100 for her. B.

For the New England Farmer.

"FARMING LIFE IN NEW ENGLAND."

"We would by no means compare New England farmers with the Irish peasantry." Indeed! "But if we enter a church containing a strictly rural assembly, and then visit another containing a class whose labor is lighter," "we shall see a contrast, less marked perhaps, but presenting similar features." Then it is not quite certain that the "contrast" between the rural and city population is "less marked," than that between the "Irish peasantry," and the "Irish gentlemen." There is room for a "perhaps." "The forms of both men and women are angular, their features are not particularly intellectual, their movements are not graceful."

When La Fayette visited this country, in 1826 we think it was, he visited several of the country towns; among the rest a farming town in the north part of Worcester county. An artillery company, composed almost wholly of farmers, turned out to do honor to the veteran soldier and statesman. After looking at their manœuvres for a few moments, he remarked to a gentleman by his side, "that is the finest company of men I ever saw." He had an eye for the "forms of men." He had seen a variety of "forms of men," and their "movements." But as at that period he had been residing for years at his chateau in the country, perhaps he had become partial to the farmer's "forms" and "movements." At any rate, he did not seem to be aware of the fact that the "city assemblage is composed of a finer and higher grade of men, women and children." Now, as the "city comes from the country," it is surprising how rapidly this transformation takes place. When relieved from labor, life rises at once to a "higher grade," as the spring rebounds when the weight is removed that pressed it down. Men and women of finer and higher grade! Yes, if "the tailor makes the man," they may be. But if health and vigor, intelligence and self-reliant industry, independence, integrity and honesty, make the man, then we deny the assertion altogether. "But the city children going back to the farm, show that a new element has been introduced into their blood." Yes, an element of feebleness, frivolity and selfishness. If these show "in every way a finer development," then they undoubtedly possess it.

Where has this writer spent his life? In what aristocratic "bower of ease" has he been taught to look back with contempt, upon the source from whence he sprung? We should suppose that he were still a sophomore, or at least, that he had just graduated, with the notion so common among young students, that he is of "a finer and higher grade" than other men, and that he had not lived long enough to correct the mistake. Where would any man in his senses look for fair, blooming, well developed, healthy, happy children, capable of caring for themselves, and lending a generous aid to the feeble and the needy, but among the boys and girls who have breathed

the bracing air, and had the free range of the hills of New England? Would he seek them by gas light, in the narrow lanes, the dark avenues, or the crowded streets of the city? Where do our city merchants find the healthful, blooming women, whom they transport to the city, and to whom they render the "homage of their hearts," and who may "introduce a new element into the blood of their children?" Were it not for the constant infusion of this "new element," the city children would be compelled to "go back to the farm" to recruit their feeble frames and decaying energies, more frequently than they do now. Where were the Hawleys, the Knoxes, the Putnams, the Starks, the Greens, the Sullivans, and even Washington, raised? Did Cromwell and Napoleon have their root in the pavement? And where did Clay, and Webster, and Calhoun, and Corwin, and Cass, first see the light? Do their mothers afford instances in which "Heaven mercifully interfered with the operation of its own laws?" Will the "hands" and "faces" and "bowed and clumsy forms" of their mothers compare with those of city dames? Are there no bowed frames and angular forms and "features that are not particularly intellectual" to be seen in the "streets?" We know that such "comparisons are invidious." There are men and women in both city and country, whose forms are angular, whose features are stolid, and whose frames are bowed by disease, by care and by labor. But we contend that the country exhibits its full proportion of health and beauty, intelligence and grace. If the farmer's wife, discharging her appropriate duties in the kitchen, is clothed in a garb appropriate to her work, if the farmer himself does not go to market clothed in broadcloth, if his face is browned by the weather, and his hands are hardened by toil, does this prove that they belong to an inferior grade of humanity? Apply to them the test of womanhood or manhood. Appeal to their hearts, to their conscience, their integrity, their love of honest independence, their intelligence, to all the virtues that constitute the true men, or the true women, and will they be found inferior to those who toil in the counting-room, or in the dust and smoke of the mechanic's shop?

But "the farmer's home," the "sketch." In what part of the country did he draw this "sketch?" In what remote corner of New England, where the hum of the factory or the whistle of the engine was never heard, did he find this home? We do not deny that there are relics of the olden time, venerable for their antiquity, which bear some resemblance, in their external appearance, to the "sketch." But are they the types and representatives of the homes of the living New England farmers of to-day? We would as soon think of calling the "one hoss shay," built by the logical deacon, a hundred years ago, adorned in front and all around by rows of burnished brass nails, a type of the vehicles of the present time. As to the internal arrangement and style of life which are said to present themselves, when "we enter by the back door," we think we should look in vain for them anywhere except in the "sketch," even in a "square brown house," unless it were occupied by "Irish peasantry." It is true that there is much room for improvement in many of the "farm homes" of New England. Many of them exhibit a sad want of taste in their surroundings. But a want of taste is not a want of truth, and we ask in all soberness, is this a truthful "sketch" of the farm houses of New England? In what "lodge in some vast wilderness" does this man dwell? Go through the length and breadth of the land, visit the hills and valleys of New England. Ask our county officers—the committees of our agricultural societies, on farms and orchards, who visit the farms, and are entertained at the homes of the farmers. Some of these men have been in the city. Some of them reside there a part of the year, and are participants of both city and country life. Ask them if the farmers "receive their friends" in the kitchen, where "a kettle of soap-grease is standing upon the stove, and its fumes are mingling with the boiling cabbage, and other smells, anything but agreeable?" Ask them if "the men and women, the sons and daughters" which they have met in their annual visits, "go so far into essential self-debasement, as to condemn beauty, and those who love it, and to glory above all things, in brute strength, and brute endurance?" Where do they find more intelligent, high-minded and honorable men? Where do they find women of more beautiful forms, and "look upon faces" more fair? Where have they mingled in conversation more agreeable and more intellectual? Where have they been entertained at tables more bountifully, not to say more tastefully spread? And more, where have they "looked upon hands" that have wrought more beautiful specimens of needle work or painting? Where have they heard sweeter voices, or more delightful strains of music? Where have they found, in most generous abundance, the comforts and conveniences of home, and added to these, an ample store of the elegancies and luxuries of life? Now we do not say that this is a picture of farm life, as it is commonly found in New England. But we do say that the picture is more truthful, and more frequent at the present day, than the "sketch," which is held up as a type of farm life.

The tendency of the present time is to copy and multiply the picture which we have drawn, and many of its features are found in almost every farm home, while the "sketch," if it were ever true to life, has been a relic of antiquity for half a century. We would recommend to the artist to present his study of ancient ruins to the State Antiquarian Society. We think the gift should entitle him to membership.

But "the real reason for the deterioration of agriculture in New England." The "deterioration of agriculture" again. Now we wholly and absolutely deny that any such "deterioration" exists. It is a false assumption without any proof. Let us look a little into the detail. In the State of New York there are 58,000 fewer cows than there were fifteen years ago. And yet the increase in cheese is 12,991,437 pounds, and of butter 264,361 pounds, worth together $1,202,580. Now if the farmers can sell 58,000 cows, and pocket the money and save the keeping of the cows, and yet their dairy products be increased by more than $1,200,000, is there a deterioration in stock husbandry? Throughout New England quite as great a change has taken place in this department of farming. Owing to the introduction of the "pick and pride of foreign herds," and to more skilful management, the value of cows and oxen

is nearly or quite twice as much as it was twenty-five years ago. The sheep in Vermont yield two pounds of wool, where they yielded one, twenty years ago, and that of better quality. And are not the Morgans and Black Hawks an improvement upon the old ewe necked breed of New England horses? And have not swine fully kept pace in improvement, with other farm stock? The grass lands in Massachusetts yield two tons, where they formerly yielded one. And this is one very important reason of the increased value of farm stock.

In corn culture, our farmers harvest at least twenty-five per cent. an acre more than formerly. If they do not raise as many potatoes per acre as they once did, it is owing to causes beyond their control, like the diseases, that at certain periods attack certain families of trees, as the buttonwood, the peach, &c. But if the quantity of potatoes per acre has diminished, the price has increased, and been sustained by the demand of the foreign population, and the income to the farmer from this crop has been greater, during the few years past, than ever before. And is not the quantity of fruit greatly increased, and its quality improved? But, it will be said, the quantity of grain rasied in New England has diminished. The agriculture of New England has doubtless undergone some changes. The habits of our people have changed. They now consume a much greater amount and variety of vegetable food than formerly, and farm culture has changed to meet the demand occasioned by this change in the habits of living. In the vicinity of all our cities and manufacturing towns, fields that were once covered with rye and corn, are cut up into streets and building lots, or covered with buildings and gardens. The culture of fruit and vegetables for the supply of the market in these towns, is much more profitable than the culture of grain. One of my neighbors raised this season, on one acre and a quarter, one hundred and sixty barrels of marrow squashes, worth one dollar the barrel.

Here was twice the amount which this land would have yielded in corn. But has there been, in this case, a "deterioration in agriculture?" Farm lands which might have been purchased thirty or forty years ago for thirty dollars an acre, have been sold for three and even five hundred dollars for the cultivation of market vegetables. Does this prove deterioration? The truth is that in many parts of New England, farmers cannot afford to raise corn, or even to pasture cows for butter. It is better economy for them to purchase corn and butter, and appropriate their lands to other uses. Does this prove bad husbandry? If so, every man who engages in a more profitable business than he has been pursuing, is a bad husband. Whence has come the great increase of taxable property in the farming towns and villages? Whence have sprung up all over our hills and valleys, neat, convenient and tasteful dwelling-houses? How comes it that they are filled with better furniture and many more conveniences, than they were a few years ago? Whence have sprung up the large and elegant barns, with spacious cellars, that have taken the place of the small and inconvenient barns of the past? How is it that farming population is better clothed and better fed—that they have better school-houses, and annually spend large sums for the education of their children? How is it that books and papers and periodicals are found in every farmer's family? How is it that the farmers are able to employ foreign laborers, both in the house and field, and educate their own sons and daughters to teach the schools of the cities, to fill their pulpits and adorn their legal tribunals? Whence have thousands of farmers' sons obtained the means to secure future homes on the broad prairies of the West, or to gratify the love of enterprise or fondness for roaming, by visiting the El Dorados of the world? The sums thus carried from the farm homes within a few years past, would go far to pay for all the farms of New England, as they were in the past generation. Does all this prove the deterioration of agriculture?

As we deny the position which the writer takes so much pains to prove, we have nothing to do with the reasons by which he attempts to prove it. But one word with respect to "the position of the mother in the New England farm homes." "Is not she who should receive the tenderest and most considerate ministries of the farmer's home, in all its appointments, and all its service, made the ceaseless minister and servant of the home and all within it, with utter disregard of her office?" Shame, shame on the man who can so dishonor the soil that feeds him. If any woman in any home is completely mistress of "all its appointments," and all its "service," and of all "within it," it is the beloved and virtuous mother in the New England farmer's home. It is true that New England mothers are "ceaseless ministers" to those around them. They are ever anxious about the objects of their love. Their affection takes that active form that demands an object to love and care for. Like Martha of old, they are "careful and troubled about many things." But this is no more true of the mothers in farmers' homes, than in other homes. It is characteristic of New England mothers, and their husbands are not good easy souls, letting things go their own way, and taking the world easy. New England men and women both are characterized by incessant anxiety and ceaseless care for the objects of their affection or pursuit. Careful and anxious fathers and mothers are they. But it is a constitutional trait and belongs to the race. If the New England mother assumes the office of "ceaseless minister" to her children, it is because she is impelled to it by an anxious, loving heart, and not because her affectionate service does not secure for her "more consideration than the pets of the stall." We are sorry that so able a writer does not read human nature more correctly, or understand better the character of his own countrymen.

But, Mr. Editor, we are taking up quite too much of your space, and will speak of only one more point before we close, and that is the "isolation" of farm life, and here we will be brief. "The tree which springs in the open field, though it be fed by the juices of a rood, will present a hard and stunted growth, while the little sapling of the forest seeking for life among a million roots, will lift to the light its cap of leaves upon a graceful stem, and whisper even-headed with the stateliest of its neighbors." Yes, and the whisper will ever be, "I am even-headed with my

neighbors;" and to gain this even level is the struggle of its whole life. Its "cap of leaves" is borne upon a naked bole. It throws out no sturdy arms laden with fruit and foliage, yielding shelter and nourishment to "the beasts of the field and the fowls of the air." It is like its neighbors. It has no individual character. Who ever looks for a tree of the "first-class" in the forest? Did the "autocrat" ever put his "wedding-ring" on such a tree? Did his heart "ever stop short and then jump in his ribs," when he looked on such a tree? It is the tree occupying a "rood" that "lifts in Olympian majesty and imperial supremacy" "its great green cloud" of foliage. When did the tree which "seeks for life among a million roots" ever spread its symmetrical branches over a "diameter of a hundred feet? The "autocrat" certainly exhibits the most extensive and accurate knowledge of the natural history of trees, even of the trees of the river towns, and of their individual character, as they stand "alone in their glory." And when "somebody" publishes his photographs of New England elms and other trees," we shall have additional evidence that trees which grow up in "isolation" have not therefore a hard and stunted growth. We present this illustration of one of the reasons of the "deterioration of agriculture" as a fair sample of the writer's correctness in the observation of facts. It is a good specimen of his accuracy, and quite as reliable as any other "sketch" he has drawn. The inferences which he deduces from his facts, are worth as much and no more than the facts themselves, and indicate a judgment equalled only by his power of observation. Had not this outrage upon New England character been found in company that gives it credit and currency, we would not have troubled you with these remarks. B.

Oct. 15.

For the New England Farmer.

REFLECTING LIGHT INTO A WELL.

MR. EDITOR:—I recently noticed in your columns the old story revived of looking into wells by a looking-glass, which carried my mind back some twenty-three years. When standing in Dr. Bond's well, in Waltham, the well being about thirty-six feet deep, and had six feet of water in it, after connecting the pipe by soldering, to lead the water from it into a house, and while gathering up my tools, a valuable jackknife slipt from my hands to the bottom. I looked wishfully after it till it struck the water, then it was out of sight, and I knew just as well where it was as though it had been in my pocket. While standing on the stoning, some ten feet down, I resolved that I must have it, but how to get it was the knotty question. I bethought myself as being once a rogue in school, playing with a piece of looking-glass, reflecting the sun's light on the walls and ceiling of the room, to attract the little rogues like myself. While reflecting, and the sun shining, philosophy told me that he would show me where the knife lay. The water being clear, a mirror was brought, the experiment made, and the knife brought clearly to view under six feet of water. Here was the treasure in sight. What next? Perseverance said—get a hoe, splice out the handle, lower it down and work it under the knife, at the same time the man above reflecting the sun's light upon it. This being done, the object of search was brought up within eight inches of the surface, when it glided off and went to the bottom again; this was tried over again, and the same result. But a third time secured it by thrusting the arm into the water and meeting the knife before it came to the surface.

This was the first practical application of my early discovery of reflecting light, and was of great worth to me, when in the pump business. Not only was it useful to me where the sun shone over the well, but I could reflect from one mirror to another into any room, down any well, through any tunnel or into any pump, and see the inside of anything as well as the outside.

Boston, Oct., 1858. S. A.

MILK FROM SPAYED COWS—INTERESTING TO DAIRYMEN.

It is known to all our dairymen, that the milk of cows varies greatly. In a period when the cows are in heat, the milk is very unhealthy and injurious to other milk in contact with it. The milk of cows, for a time after calving, is also not as good as at a subsequent period. A French gentleman, "Delamarre," proprietor of a milk establishment in Paris, gives the following account of

THE MILK OF SPAYED COWS.

This milk is produced from cows which, after the fifth or sixth gestation, and five or six weeks after calving, undergo an operation which consists in the removal of the ovaries, thus rendering the cows, henceforth, incapable of re-production. From this time, as happens to the ox, the animal changes in its nature, and its milk, which we have named milk of spayed cows, is free from all perturbations. The spayed cow does not undergo those disturbances arising from being in heat, from gestation, and perturbation, she is free from those causes which produce such effects in the quality of the milk.

In this new condition her milk becomes regulated, and, which is important to the farmer, lactation is maintained in full quantity, for a year at least, and is prolonged, diminishing in quantity but increasing in quality, two and even three years, when she is not too old, and is properly kept. When lactation has ceased, the cow, which has by a quiet and reposed life become considerably increased in flesh, may be delivered to the butcher in perfect condition, and the meat is superior to that of ordinary cows. By generalizing the spaying of cows, after the fifth or sixth gestation, there would be introduced into common use milk of an irreproachable quality.

The spaying of cows was known in remote antiquity. In modern times the practice dates back about twenty-five years, with the design to increase the quality of milk in cows. In 1830, Mr. Winn, Natchez, Miss., applied it with advantage in the production of milk. Mr. Winn proceeded by the cesarian operation, which is still pursued in the United States, but it presents serious difficulties, resulting occasionally in the death of the animal. In France, M. Charlier, Veterinary Surgeon, executes the operation without external in-

cision, and renders the chances of mortality much less.

The milk of spayed cows gives more cream than ordinary milk; it is also richer in casein, which constitutes—a fact generally unknown—the most nourishing part of milk—hence the superior quality of the milk. The butter extracted directly from the milk is delicious in taste; it testifies to the amount and richness of the casein it contains. This milk offers precious resources for the artificial raising of infants; it might be asserted that they will be better nourished; for the nourishment of infants, who give it the preference over other milk, we do not doubt that the milk of spayed cows will be principally used.

Such is the milk introduced by M. Delamarre at his establishment for consumption. — *Ohio Farmer.*

THE FLAIL.

BY ANNA L. ANGIER.

A song for the flail! the smooth handled flail,
As stroke after stroke it comes down;
While the golden grains fly, wheat, barley or rye,
The toil of the farmer to crown.

The useful and useless he thus will divide;
And gathering each in its turn,
The former with care, for the garner prepare,
The latter he'll scatter or burn.

And what is earth more than a great threshing floor—
With the wrong and the right thickly strown?
But Truth's iron flail, them both shall assail;
To the winds then shall falsehood be thrown.

Boston Recorder.

MASS. STATE BOARD OF AGRICULTURE.

A quarterly meeting of the State Board of Agriculture was holden at the farm at Westboro', on the 18th October, the *Superintending Committee* having been in session the previous day. Nearly all the members were present. The discussions were animated, harmonious and instructive. In that on *The Potato Rot*, the opinion seemed to prevail, *that insects* ARE NOT *the prime cause of the disease*, but that they are usually attendant upon it. Numerous experiments have been gone through with on the farm during the season just closed, which have been conducted with accuracy and care, whose results indicate that nothing has yet come to the knowledge of the Board, that will certainly prevent the disease. Indeed, in some of the experiments, where remedies had been recommended with the utmost confidence, the disease seemed to revel with unusual virulence and power.

In connection with this subject, the opinion as expressed, was general, that potatoes succeed the best on new land,—that is, on land newly broken, whether just reclaimed or broken pastures or mowing fields. Mr. LATHROP, of South Hadley, said he had known potatoes repeatedly to fail when planted on the same land for three successive years.

The discussion "*On the use of Guano*" was highly interesting,—but the views of the speakers were various. We could see that there was no unanimity of opinion that guano would invariably prove useful to hoed or grain crops, but that on grass lands where *humus* is annually supplied in the second growth of grass which dies and decays on the ground, absorbing and holding the guano, it can be universally employed with confidence, and may be expected to produce profitable results. On this subject, Col. WILDER observed that he had known mowing fields sustained for *eight successive years* in producing heavy crops, with no other fertilizer supplied by man but guano.

The importance of the means for a *more systematic education* for those who mean to make farming an avocation, was earnestly discussed, and it was evident that the Board believes it a duty to give this point more direct attention hereafter. Mr. SWEETSER, of Amherst, sustained his opinions in brief, but appropriate and forcible remarks.

In the course of business matters it was "*Voted*, That the Board of Agriculture do not contemplate renewing the contract for the management of the State Farm at Westboro', and now notify the Trustees of their decision."

We learn that there were several reasons five years ago for transferring the farm to the care of the Board of Agriculture, and among the principal of which was that of relieving the Trustees from the care of employing the boys on the land under the immediate care of competent overseers and instructors. Under a new arrangement of the Board of Trustees, however, all the boys who are of sufficient age and ability, and who can be entrusted on the farm, are now employed upon it during suitable weather, *under the care of their own teachers in the schools.* This plan has been found to work admirably, and has already been attended with the most beneficial results. The Board of Agriculture also found its field of operations somewhat restricted by the connection, and the cost of managing the farm considerably increased by the necessity of keeping minute and extended accounts, and the unavoidable intermingling of the business of the two Boards. Having, therefore, a wider field of action in view, and the term having nearly expired for which they contracted, they gave notice to the Trustees at this early day—the contract expiring in April next—in order that they may have ample time to arrange for next spring's operations.

One step taken towards carrying out the new views of the Board, was the appointment of a committee to consider and report at the annual meeting in January next, a plan of operations of the Board for the ensuing year. Dr. JOHN C.

BARTLETT, of Chelmsford, is Chairman of this committee, and aided by his intelligent associates, they will undoubtedly present a lucid and practical outline of business.

We hope, now that the Board is about relinquishing its charge of the farm, that it will devote a chapter in its next volume of Transactions to a full account of the experiments and improvements which have been conducted under its control. We are confident that in each of these, more has been done, and more important results have been obtained, than our people are aware of; it is due to the Board, that its labors may be appreciated, and the people desire it, that they may profit by the example given them.

For the New England Farmer.

CAUSE AND CURE OF THE POTATO ROT.

MR. EDITOR:—I have read with much interest the articles which have lately appeared in the *Farmer* on the above-named subject—one copied from the *Scientific American*, one from Mr. Reed, the patentee, and another from the veteran Mr. Proctor, the——sceptic! My interest in the two first articles was increased, from the fact that they spoke with a confidence characteristic of an "assurance doubly sure." Can we even suspect that it is not the true theory, when so much science, time and labor have been devoted to it, and that we shall not hereafter be able to raise a plenty of sound potatoes, whether we purchase Mr. Reed's patent right, or adopt Mr. Henderson's gratuitous method of sprinkling the seed with quicklime, or of planting deep? And in this connection I cannot but observe, that Mr. Reed can have but little faith in Mr. Henderson's *remedy*, else he would not be so unwise as to patent his own remedy when no further means of prevention were needed; or that the public would purchase his right unless they thought it the sole preventive. And do not these gentlemen differ in regard to the identity of the depredating insect? I find mentioned the "*Aphis Vastator*," the "*Phytocoris Linealaris*," the "*Capris Obliniatus*," and the "*Alphis*." Are these identical, all having "brilliant black eyes?"

For the last few years the potato has rotted badly, but not because there were no published remedies. Each last new antidote has been regarded, by its promulgator, as the certain one; but before he can justly appreciate his great discovery, there comes the conviction that it is futile, and his "blushing honors" immediately vanish. Let us not be

> "Unskilled to judge the future by the past,"

but require actual demonstration, for a series of years (if not falsified before,) of any new theory in relation to the cause and remedy of the potato rot.

In relation to the Messrs. Henderson and Reed's new insect theory, I am reminded that "Honest doubt is the beacon of the wise." Nevertheless, every man, who is not already convinced of its falsity, is under obligation to test it. There are many diseases incident to the human system, for which we have no actual remedy, but merely palliatives; and even they, in many cases, can hardly be called such. The Asiatic cholera, fevers, &c., are some of them. We may never know the cause or remedy of this potato disease, yet it may in time mysteriously disappear.

It would seem from the article from the *Scientific American*, that one remedy for the evil is to plant deep, thereby preventing light and air from coming to the delicate eggs, though the growth of the tuber requires air. If such is the case, I cannot see how the rot reaches the new tubers lying *deep* in the hill, and as frequently leaving those sound *near the surface*—which fact I have particularly noticed since reading the above-named articles. If the deepest planted are affected, how much more should the surface ones suffer! The application of quicklime to the seed is another published remedy of Mr. Henderson, with a view of killing the eggs. (How would scalding water do?) I have not tried pure caustic lime as yet, but I *always* sprinkle air-slaked lime, in a somewhat imperfect or lumpy condition, on my seedling tubers, and it seems to give no protection.

It is generally believed that on upland new soils, with but little manure, the potato enjoys the greatest immunity from the rot; but if the embryo insect is adhering to the seedling tuber, and feeds upon it and its products, when it becomes developed, why cannot he make as sad havoc in this position as in any other? The potato disease, it is well known, is some years more virulent than in others, also varying in different sections of the country—which is perfectly in harmony with the atmospheric theory. But can it be so on the insect hypothesis? Sometimes, also, very early varieties escape; and the very late-growing are only injured. Can the cause of this be made clear on the insect presumption? Again, if the potato is the food upon which these bugs feed, what can we think of that instinct which leads them to poison and destroy it?

Why do peaches and plums rot early in great quantities on the trees? Is this caused by an insect, or by the peculiar state of the atmosphere acting upon objects of easy decomposition? What causes vegetable decay in general? And if insects of some kind are found, by the aid of the microscope, in all incipient decomposition, does it prove they cause it?

Some time last winter or spring, Mr. Sheldon, of Wilmington, Ms., (a very zealous and worthy farmer,) published a communication in this paper, and also in the *Boston Cultivator*, claiming the State award of $10,000, on the conviction that he had discovered the remedy for the potato disease, in keeping the tubers intended for the next planting from the light and air. This *may* be a remedy; but I have seen no allusions made to it from any other source. If Mr. Sheldon can raise round potatoes without the use of lime or deep planting, or without purchasing Mr. Reed's patent antidote, he is a fortunate man—much more, probably, than the rest of mankind with them all!

I think, also, a gentleman of Essex Co., during the past summer, has stated in the *New England Farmer*, that an oyster shell placed within the hill is a preventive of the rot! This gentleman probably cherishes but very little respect for the entomological speculation of Messrs. Henderson and Reed, or of the underground remedy

of Mr. Sheldon. His specific is a simple oyster-shell; but it is not mine, for I have within a few days seen several hills containing rotten potatoes in close contiguity with this crustaceous protector!

Mr. Lyman Reed, in his communication speaks with great confidence in his remedy; but I apprehend the farmer's confidence in his antidote will be signally feeble when he learns that he is "prepared to dispose of rights to use the remedy." With Mr. Proctor, I must yet remain—sceptical!

West Medford, Oct. 10, 1858. D. W. L.

For the New England Farmer.

BOOK KNOWLEDGE VS. EXPERIENCE—SALTING PLUM TREES.

MR. EDITOR:—I read the "*Farmer*" with much interest. I have been wont to place confidence in its teachings, but my faith is waning; I am feeling more and more every season, that we know nothing until we learn it by actual experience. For an illustration, I refer to one instance now. I have read again and again in the *Farmer*, that salt was good for plum trees. In the July number, 1856, of the monthly, there is an article by "Norfolk," on the "Treatment of Plum Trees." I had in the spring a number of fine growing trees. Some were grafted the year previous and were doing very well. But not satisfied with "doing well," I wished to "do better." So I made what I suppose Norfolk would call a "free use" of salt, and the result is, what trees are not dead outright, are stationary,—have not grown any, neither produced fruit.

From my experience, I venture the assertion that with the "free use of salt," I can kill in one month, at a given period, every plum tree which "Norfolk" owns, or anybody else, for that matter. I have yet to be convinced that any amount of salt, ever so prudently used, is of any service to plum trees. Still the presumption is that small quantities may be of utility. But if the indiscriminate use is liable to be followed by such results as I have witnessed, in the case of my own trees, ought not more caution to be used in recommending the application of "salt freely to the roots of the tree?" If I wanted to kill my trees this would be the course I would pursue.

I have sometimes felt, as I have looked upon my lost plum trees, that the friend whose advice I was fool enough to follow in killing them, ought to be informed of the result, and so I have written these lines. WEST BOYLSTON.

Sept., 1858.

KEEPING SWEET POTATOES FOR SEED.

We generally select potatoes from one-half to one inch in thickness; the smaller ones generally dry up so as to be worthless in the spring. The next thing is to store them properly. Take old flour barrels or shoe boxes or almost any vessel that is not so tight as not to admit the air. A tight barrel or box we have always found unfavorable; old salt barrels, ruinous, the salt every time rotting the potatoes. We fill them, carefully shaking them down, then cover the top with well dried saw-dust, or dust from the road, or dry sand, or the soil they were raised in, well dried, will make a good covering. Then store them away in a room not subject to sudden changes, be careful in storing, however, not to cover so close as to leave no opportunity for the sweat from the potatoes to pass off, for sweet potatoes are like other things, they will pass through a sweat, and if there is no chance for the moisture to pass off, they must rot. The room must be kept warm by fire; you might as well throw them away at once as to attempt to keep them in this climate without fire. The proper temperature is about 50° by our common thermometers; though where you have a stove in your room the temperature may be raised to 70 or 80° without injury, as the air is much easier warmed than the potatoes. In the spring be not in too great haste to unpack and remove them: we have frequently been deceived by spells of warm weather, into removing our potatoes too early, and got them chilled and lost more by rot than we had all the winter before.—G. S. INNIS, *Columbus, O., in Ohio Cultivator.*

TREES AROUND BARNYARDS.

Much attention has been paid in your valuable paper lately to the management and cultivation of fruit trees. The subject is one of importance, and worthy of your consideration, a swell as more attention among farmers than it generally receives. I am willing to do what I can to call more attention to this subject, and would therefore suggest a plan in which a few dollars might be profitably invested by every farmer who has a barnyard; it is this: to set out as many apple or other fruit trees around the barn and yard as the room will permit.

Trees so planted will soon throw out their roots under the barn and yard, where they will find an abundance of nourishment which has soaked downward from the surface of the yard, and which, did they not save, could not be available in any other way. In consequence of their proximity to the yard and barn, they will not need any manuring or further attention, save to protect them from cattle, till they get out of their reach, which they will soon do, and come into bearing.

The fruit from trees so planted is large and well developed, and they almost always hang full. One of my neighbors who has a row of apple trees on one side of his yard, has twe trees of the same kind, one near his yard and the other some distance off; the one near his yard produces apples of twice the size, and more than four times the quantity of the other. My neighbor's trees are about sixty years of age, and the largest that I have ever seen; a number of them are about eight feet in circumference, at a distance of sixty feet across them through the heads, and are still growing vigorously.

It is also a great advantage to a yard to have trees around it, especially in winter, as they do much towards breaking the cold winds, and preventing much suffering among the cattle. I hope that those who feel disposed will try it this fall, as the outlay is so small, and the result so sure, that I doubt not they will be satisfied with the result, and an additional attraction be given to the old homestead.—*Homestead.*

ADVANTAGES OF EDUCATION TO FARMERS.

BY HENRY F. FRENCH, OF EXETER, N. H.

Soil Analyses—Danger to True Science from False Teachers—Analysis a Nice and Difficult Process—Superphosphate of Lime—Affection of Elementary Substances, and their Marriage—No Accounting for Tastes, either in Men or the Elements.

The subject of *soil analyses* is extremely interesting to the farmer. It is so simple and easy, just to be told of what plants are made—to be supplied with the necessary materials which one's land does not contain, and these ideas are so much more satisfactory than the mystery which formerly hung around all the processes of vegetation, that it is not strange, that even the cultivators of the earth, the last class, usually, to be carried away by new plans of advancement in their vocation, should be induced to over-estimate the practical advantages of analyzing soils.

There is danger to true science, when men have been imposed upon by false teachers. An erroneous idea prevails, that it is a very simple and easy process to analyze soils. Many seem to suppose that any farmer who can make an axe-handle, may sit in the chimney corner, and with a laboratory, consisting of a frying-pan and two or three old blacking bottles, may analyze a specimen of his soil, while his wife is cooking his breakfast, and having thus ascertained what element is missing to make up his crop, may go out with his waistcoat pocket full of some patent fertilizer, and administer it in homœopathic doses to his sickly plants, and so dispense with the old-fashioned manures.

A little examination will satisfy us that the utmost patience and care, with the use of accurate and expensive apparatus—that the nicest skill, and long experience, with profound scientific knowledge of the principles of chemistry, are essential to any valuable results in soil analyses.

A single example will illustrate this part of our subject. If we burn 100 lbs. of wheat to ashes, in an open vessel, we have left two pounds of ashes, of which one pound is phosphoric acid. A crop of wheat 30 bus. to the acre, weighing 60 lbs. to the bushel, or 1800 lbs. in all, would contain but 18 lbs. of phosphoric acid. This is all that the grain takes from the soil.

Now, we estimate that an inch of soil over an acre, weighs about 100 tons. The roots of the wheat would extend downwards ten inches at least, so that they would occupy 1000 tons of soil, and from this 1000 tons of soil they take the 18 lbs. of phosphoric acid. If we can form any idea of the proportion which 18 lbs. bears to 1000 tons, or 2,000,000 lbs., we can give some estimate of the nicety required to ascertain whether the elements essential to our crops, exist in the soil. The following remarks from a recent publication, present another view of the subject, equally striking:

"We know that on all poor lands, of proper texture, the application of 200 lbs. of guano to the acre will produce fair crops of grain and roots, and this is the difference between a barren and tolerably fertile soil. Now, this guano supplies only 6 lbs. of potash, 24 lbs. of phosphoric acid and 34 lbs. of ammonia. But the acre contains 3,920,000 lbs. of soil, to the depth of a foot.

Can analysis ascertain one part of potash in 600,000 parts of foreign matter, or one part of phosphoric acid in 150,000 parts, or one part of ammonia in 100,000 parts?"

Practical chemists are divided upon the question, whether the present power of chemical analysis can reach to so critical examinations as this. When we add, on the authority of Prof. Norton, that from 10 to 15 days of patient, constant toil, are required for a single analysis, and that from two to five years of practice even by an educated chemist, in a suitable laboratory, are requisite to give the necessary tact and skill for the process, we may at least conclude, what I proposed to show on this subject, that an uneducated man, so far from being capable of performing analyses of soils for himself, is not capable even of protecting himself from the grossest imposition by those who pretend, for a few of his dollars, to give him accurate knowledge on these points.

The study of Agricultural Chemistry, aside from the refinements to which we have alluded, is one of deep interest to every cultivator of the earth. It brings into constant practical use, some of the most curious and mysterious laws of nature, laws which were known to the alchemists of older times, who sought for the philosopher's stone, which should change base metals to gold, renew youth to the aged, and heal every disease—but which have waited for a generation that has chained the shrieking steam giant to its chariot, and bade the lightning carry its messages,—to bring them into useful service for mankind.

Of this kind, are the qualities of bodies known as the laws of *chemical affinities*, of *chemical combinations*, and the solubility and insolubility of bodies. All these laws are rendered available in daily practice in the manufacture of the new fertilizer known as *Superphosphate* of *Lime*.

Everybody who reads a newspaper, especially if it be an agricultural paper, is constantly reminded of superphosphate of lime. Even the *Russia Salve* and the Magical Pain Extractor are scarcely thrust upon our notice more pertinaciously.

That the true Superphosphate of Lime is a valuable manure—a most powerful fertilizer for many soils, is manifest to all who know its composition. That the community is in great danger of gross imposition in the sale of spurious articles, under this name, is equally plain.

Whether even the true Superphosphate will prove to be cheap enough to warrant its general use, is yet uncertain.

But my purpose was to describe briefly the process of making this famous article, to illustrate how science makes every law of nature useful to mankind.

Chemical combinations take place only in fixed proportions to suit her taste, and, before the temperance times a gentleman could mingle his brandy and water as he pleased, subject to any quantity of logwood and other nourishing ingredients added by the manufacturer; but chemical combinations are not thus managed.

For instance: Phosphoric acid and lime will combine in two proportions only, and these are—two atoms of phosphoric acid to two of lime, which make Phosphate of Lime, and secondly, three atoms of phosphoric acid to one of lime, which make Superphosphate of Lime.

Phosphate of Lime is not readily soluble in

water. Superphosphate of Lime is very easily dissolved. The nutriment of plants is taken up only in a liquid form, and it is desirable, therefore, to apply all fertilizers in the form most soluble.

Superphosphate of *Lime* is made usually of *bones of animals*, which are mostly *Phosphate* of *Lime*, and as all know, not readily dissolved in water.

In this form, as has been said, the *phosphoric acid* and *lime* are chemically combined in the proportion of two and two.

They form a sort of equal union or marriage—one *bone* if not one flesh.

Now, the object is to break up this union, to entice away from the Phosphoric acid its lawful lord and master, the Lime, which we may regard as the weaker vessel.

Now the process is perfectly natural. All we have to do is, to bring to her neighborhood and notice, an object of stronger *affection*, an *affinity*, as the chemists term it. Sulphuric acid and lime have a stronger affinity or affection for each other, than *Phosphoric acid and Lime*, and so we make use of this fact, and by adding sulphuric acid, we at once entice away a proportion of the lime, which forms a union with it as *Sulphate of Lime*, and leaves the remaining lime to form the only remaining connection which the laws of chemical combination allow, with the *phosphoric acid*, as superphosphate of lime.

If the question be asked *why* do chemical combinations occur only in certain fixed proportions, we cannot answer.

If asked why in one proportion, the same substances are more soluble than in another, we cannot tell. When we have found uniform results from certain operations, and can divine no reason, we call it a law of nature.

Why has one substance a stronger affinity or affection for another, than for a third?

A Yankee might answer, by asking why one young gentleman and lady have a stronger affection for each other, than all else in the world beside. The *facts* are equally apparent,—the explanation often extremely difficult.—*Country Gentleman.*

THE LAMAS.

Apropos to the attempt to naturalize the camel in the United States, efforts have just commenced to acclimatize the lama—a native of South America—the animal from which the famous alpaca wool is obtained. Forty-two of these animals recently arrived in this city, being imported from Escuador by way of Aspinwall. They are destined, we understand, for the Eastern States, in the hope that they may become inured to the climate, and take the place of sheep, in some cases, on account of their wool, which is very valuable. In their native regions they are shorn twice every year, and yield, at each shearing, about sixteen pounds—four times the quantity obtained from the common sheep, which are shorn only once annually. They are pretty large animals, weighing from 200 to 300 lbs., and are used as beasts of burden in South America—they are the American camel. They live on coarse herbage in the region of the Andes mountains; and it is believed they will prosper in the hilly portions of Vermont, Maine and New Hampshire. If not, we think they can be acclimatized in the mountainous regions of Virginia, North Carolina and Tennessee.

We really hope that this laudable effort to introduce the lama into our country will prove successful, as its flesh is said to be equal to the best venison, while its wool is now extensively employed in manufacturing very beautiful fabrics. We also hope that if one effort fails, others will be made, as it is reasonable to suppose that, with our great variety of climate and soil, this useful animal can be acclimated in some part of our country.—*Scientific American.*

NEW AND VALUABLE DISINFECTING AGENT.

A Dr. Angue Smith of Manchester, England, lately read a paper before the Society of Arts, London, England, in which he stated that he and a friend named McDougall, some years ago had made numerous experiments to find out a good disinfecting agent, and at last found that Sulphate of Magnesia, which is procured from Magnesian Limestone, and a certain per centage of carbonic or phenic acid, which is procured from coal tar, made a disinfecting powder of remarkable efficacy. The mode of using this powder is to first sweep the stable, then sprinkle it with the powder, the quantity being about the same as that of sand to sprinkle a floor. Then the litter is thrown over this. This powder has been found so powerful and effective, that when introduced into stables where sick and wounded army horses were, no disagreeable odor was perceptible either from the wounds or the fœces. A stable keeper, who always kept on hand a large number of horses, found that by using this powder his horses were healthier, lung diseases had disappeared or decreased, while their eyes and health did not suffer from the irritating effects of the ammonia which is to be found in all stables. It was also found that the stable was cooler, and that the dung did not decompose, so that the flies did not breed in it, and there were fewer of these pests to annoy the beasts. Mr. Murray, the stable keeper, also found that after the manure of his stable, in which he had used this powder, had been used one year, he was offered double for it next year by the market gardeners who had purchased and used it. As Dr. Smith was not a trading man, had no interest in manufactures, and did not mean to have, his statements in relation to this matter are considered reliable and disinterested.

FARMING ON A GRAND SCALE.—Several men of wealth in New York, Buffalo and Chicago, (says the *Movement*, a new paper just started in New York,) have it in contemplation to establish somewhere in the West, a Leviathan Farm, of from 100,000 to 200,000 acres. Their object is to do for agriculture, by the use of combined wealth and the power of machinery, what has been done in the past half century, by the railroad and factory, to supercede the old stage-coach and the spinning-wheel. They will organize the vast tract into two rival establishments, with military organization of labor, gigantic machinery, to plow, to plant, reap and harvest—vast

herds of horses, sheep and cattle of the most select stock, and the culture of fruit and grain on a grand scale.

The following beautiful Ode was written by John Whittier for the Agricultural and Horticultural Exhibition at Amesbury.

This day, two hundred years ago,
The wild grape by the river's side,
And tasteless ground-nut trailing low,
The table of the wood supplied.

Unknown the apple's red and gold,
The blushing tint of peach and pear;
The mirror of the Powow told
No tale of orchards ripe and rare.

Wild as the fruits he scorned to till,
These vales the idle Indian trod;
Nor knew the glad, creative skill,
The joy of him who toils with God.

O, painter of the fruits and flowers!
We thank Thee for Thy wise design
Whereby these human hands of ours
In Nature's garden work with Thine.

And thanks, that from our daily need
The joy of simple faith is born;
That he who smites the summer weed,
May trust Thee for the autumn corn.

Give fools their gold and knaves their power,
Let fortune's bubbles rise and fall;
Who sows a field, or trains a flower,
Or plants a tree, is more than all.

For he who blesses most is blest;
And God and man shall own his worth
Who toils to leave as his bequest
An added beauty to the earth.

And, soon or late, to all that sow
The time of harvest shall be given;
The flower shall bloom, the fruit shall grow,
If not on earth, at last in heaven!

INDIAN CORN.

Two Hundred Bushels per Acre.—It has been published—and so far as we can see, duly certified—that Dr. J. W. Parker, of Columbia, S. C., grew, in 1857, upon his farm near that town, 200 bushels and 12 quarts upon one measured acre of ground, and 116 bushels and 6 quarts upon another acre. In the report to the State Agricultural Society, Dr. Parker states that the seed selected for planting was from North Carolina, and denominated "Bale Mountain Corn." After soaking it during the night in a strong solution of nitre, it was planted from eight to twelve inches distance in the row, covered with hoes, and the ground rolled, leaving it perfectly level. The land was the border of a small creek, underdrained, and prepared by plowing in November, and manured in December with twenty-five two-horse loads of cow-house manure, plowed in and followed by a subsoil plow drawn by two mules. About the first of March another coat of good stable and cow manure was spread and plowed in as the first. Early in April, three cart loads of air-slacked lime and two sacks of salt were spread over each acre and lightly plowed under. On the 14th of May the ground was thoroughly plowed with Glaze's large iron plow, harrowed level and laid off thirty inches apart with a shovel plow. Guano and plaster were sprinkled in the furrows, near 200 pounds of the former and 300 pounds of the latter to each acre.

On the 14th of May the corn was plowed with a long, very narrow plow, and dressed over with hoes. On the 5th and 17th of June the same work was repeated, each time leaving the ground level. About the first of July it was necessary to draw a ridge about the roots of the corn to prevent its falling. During a protracted drought, acre No. 1 was twice irrigated and acre No. 2 had the water turned on it once.

The yield of acre No. 1, as before stated, exceeded 200 bushels. No. 2 was part of it replanted, which the Committee say prevented the yield being as large as the other.

True, this crop cost labor and manure, but does it not pay better than the tens of thousands of acres that do not yield ten bushels per acre, for such are as common as blackberries all over the Southern States. The land used being "sandhill brushland," required the high manuring, as it is not naturally fertile enough to produce such crops. The secret, however, is in the underdraining, the frequent plowing and subsoiling and irrigation.

For the New England Farmer.

"FALL TRANSPLANTING."

Your correspondent for October, under the above caption, speaks of his ill success in transplanting asparagus. Allow me to state an experience of the opposite kind. Two years ago this month I sowed some asparagus seed which in the following spring came up very well. The bed, however, not being made to my liking, I removed the finest of the plants—say a hundred—to a new bed which had been prepared by deep digging and rich manuring. This was done last October, and of the one hundred plants, ninety-nine of them lived and have grown luxuriantly during the past season.

With regard to raspberries, my experience has been that they may be transplanted at any time. I have transplanted Fastolfs, every week since last June, and shall put out a few more some time this month to fill out imperfect rows—all of which I expect to see flourishing next spring.

Ware, Mass., Oct. 7th. H.

Give the Plow and the Hoe no Rest.

1. In order to prevent the growth of weeds.

2. To insure needed moisture through the deposition of a greater amount of *dew*, upon which plants so largely depend—softening the earth, so that the moisture that condenses upon the surface may penetrate more deeply, and rendering it more porous for the easier passage of the atmosphere, for condensation in the cooler soil below.

3. To secure a greater absorption of ammonia.

4. To aid in the decomposition of minerals whose elements are food of plants.

☞ Spiders have four paps for spinning their threads, each pap having one thousand holes, and the fine web itself the union of four thousand threads. No spider spins more than four webs, and when the fourth is destroyed, they seize on the webs of others.

For the New England Farmer.

THOROUGH DRAINING.

"The advantages of thorough draining are universally recognized, and tile are for sale everywhere, * * * yet a multitude of her [New England's] purely agricultural towns are undergoing, more or less rapidly, a process of depopulation."—*Atlantic Monthly for August.*

Finding myself solitary and alone on the subject of Thorough Draining,—all three of the agricultural editors of the *Farmer*, and its whole phalanx of contributors, either by word or silence consenting to the system,—I took an opportunity the other day to call upon the Commander-in-chief of these forces and inquire if it were his pleasure that I should report myself "not dead, but speechless;" or whether, after the hard hits I have received, especially after the declaration that "Mr. Sheriff Mechi is not such a blockhead as to suppose that draining and irrigation cannot be necessary on the same land," he would advise me to count myself "among the missing." But, reader, if it has ever been your good fortune to call on Gov. Brown, you can appreciate the kindness with which he laid his finger upon my pulse, and assured me that I was by no means as yet hopelessly in the "ditch;" that I might speak out—might bring on my objections, and he would publish them, because the *Farmer* gives all parties a hearing; and because, said he, one of your articles may do the cause as much good as two in favor of draining. Was that an equivocal compliment? Did he seat me at his editorial elbow to play sly jokes at my expense? No; he meant that I should help the cause of truth, not the cause of draining!

As I have been charged with manifesting a "spite against the English notion of underdraining," I ought, perhaps, to define my position. In the extract with which I commenced my first article, page 134, it is said:

"Draining, as understood thirty years ago in England, meant merely the making of channels to carry off surface water, and underground drains to dry bogs or cut off springs. It has now an *entirely different meaning* in the agricultural world."

Now, I believe in draining our land here, as that word was understood in England thirty years ago, and I disbelieve in all modern "entirely different meanings;" I hold to the policy and necessity of "drying bogs, cutting off springs" and removing standing water, but I deny the expediency of draining for any other purpose—whether to "give greater lungs and consequently more vitality to the land," to "cause the poisonous excrementitious matter of plants to be carried out of the reach of their roots," or to "hasten the decay of roots and other vegetable matter," in the soil. In a word, where farmers do not see enough of the evils of too much water to induce them to throw their fields into "lands" with a "dead furrow" between, as is done in Western New York, or to adopt any other cheap means to conduct off the rains of spring and fall, it is unnecessary to exhort them to the practice of thorough draining.

To the arguments or reasons which I have already presented as justifying this position, I propose to add but a single one, viz.: *That the thorough draining of our old farms in New England is simply an impossibility.*

According to the census statistics of 1850, the average value of farms in New England is twenty dollars and twenty-seven cents per acre, and the average value of agricultural implements to each farm is $77,17. With few exceptions, the owners of these 167,651 New England farms, with the aid of their families, do all the work that is done upon their premises; consequently, if ditches are to be dug, they must do the digging.

Now, what is thorough draining? In an English work, entitled "Principles of Agriculture, by Albert D. Thayer," it is said: "The art of draining is one of the most difficult of all those appertaining to agricultural science." Like law and medicine, it requires its learned professors.—These have already been called into existence, in our larger towns, and their professional services are advertised in our public journals—not to dig the ditches, by any means, but simply to "advise."

In a late number of the *Farmer*, however, we caught a glimpse of the ditcher himself. He digs "in stiff tile clay" four feet deep, and places the tile for about eleven cents a rod! and even at that price the cost of draining an acre is thirty dollars! For my own part, I turned from the picture with unfeigned gratitude that "our lines are cast in pleasant places," in "a land of hills and valleys, that drinketh water of the rain of heaven."

For another purpose the writer of that article assumes that labor costs twice and a half more here than in England. Twice and a half thirty dollars are seventy-five. But "fallowing, levelling, subsoiling, &c.," on the same land, we are told, cost thirty-five dollars more. Admitting these to be, as I suppose they are, part and parcel of thorough draining, then, if the cost here is not about $162 per acre, what is it, according to Mr. Mechi's statements?

True, we have a statement on page 575 of the *Farmer* for 1856, of land being drained in Maine for $67,50 per acre. But in this case the drains were twice as far apart as English farmers recommend, and only three and a half feet deep. Why this liberty with "the system," why should thorough draining be twice as thorough in England as here, when the experimenter himself declares that "all the benefits obtained in England, *and more*, [italics his own,] are attainable here," and, also, that my "assumption that the humidity of England's climate creates a necessity for drying land there, which does not exist here," is one of my "errors of fact?" Did he feel something as the negro did who announced to his master, "One of your oxen dead—t'other too?" Was he afraid we "couldn't bore it" if he gave at once the figures of the actual cost of the "thorough" English system?

But assuming either of these sums, or any other sum that will be named by any advocate of thorough draining, as the cost per acre, and what is the prospect of applying the system to farms in New England that, buildings and all, are worth some twenty-six dollars an acre? Must we not wait until our present population of small farmers, with small means, shall give place, on the one hand to a class of capitalists, and, on the other, to a class of servile laborers?

But I am running wild of my text from the article in the *Atlantic*, which has been variously no-

ticed in the columns of the *Farmer*. The advocates of thorough draining may share the surprise expressed by the *Atlantic* writer, that tile "for sale every where" should fail to check the process of depopulation that our agricultural towns are undergoing, but I do not. A life in a four-foot ditch, or a life in the "social centres!" How long will Young America balance this alternative? Practical faith in the necessity of thorough draining of our old farms in New England would, in my opinion, depopulate this portion of the country. It would "start the boots"—boots that would never "forget where they had been," after once standing in a ditch four feet deep—of every farmer's son, and give him an excuse for leaving the old homestead, that few of the advocates of draining would meet by placing their sons in his place.

Indeed, I do frankly confess that every plan for draining which I see in the papers, and every tile that is exposed for sale "everywhere," give me the horrors. In imagination, I see these tile discharging a stream of young men from our farms out of all proportion to their capacity for conveying water. S. F.

Winchester, Oct., 1858.

MUCK AND PLAIN LANDS—MOWING MACHINES, &c.

In a recent letter from Lancaster, Mass., in which we spoke of Dea. CHAS. HUMPHREY'S farm, a mere allusion was made to several matters which are worthy of more extended notice.

A portion of his lands lie on the banks of the Nashua river, are free from stone, and very productive. On these his corn and oats each average fifty bushels per acre, and rye thirty bushels. He cuts 80 to 90 tons of hay, and this year harvests about 400 bushels of corn and 300 of oats.

On one extreme edge of his farm, Mr. H. has a track of *pine plain land* of the very poorest quality; it has been cropt with rye and buckwheat from a time "whereof the memory of man runneth not to the contrary," and without a particle of manure having been applied to it within his recollection. Failing to find a purchaser of this land, though offered at the low sum of *five* dollars an acre, he resolved to experiment upon it with swamp muck, and learn whether it could be brought into a fit condition for cultivation, at a paying cost. As is quite often the case, at the base of the plain, beds of muck were deposited in large quantities, and in this instance, of an excellent kind. This was hauled to the plain and deposited in heaps, and to every *fourteen* loads of muck, *one* load of manure from the cattle stalls was mingled with it, but not until the muck had become seasoned by exposure to the air and frosts. The manure was thoroughly incorporated with the muck by repeated plowing, so that the whole mass was in a finely pulverized condition when applied to the land. Under this treatment, we saw portions of the land covered with corn, potatoes, carrots, mangolds, turnips, beans and apple trees. Where the dressing was spread broadcast the trees appeared healthy, and the foliage large and of good color; but in one or two rows, where the muck had been liberally applied directly to the spot where the tree was set, several of the trees had died. The crop of carrots, mangolds and turnips, was very fine—the roots being large, and clear with few fibres. The potato crop was not so good as the root crops, but better than an average crop on old land. The bean vines were remarkably luxuriant, and had set for a great crop, but being planted very late, the frost had ruined them. The corn crop was light—not more than 15 to 20 bushels an acre,—but where the muck compost had been applied two years it was estimated that the crop was *ten* bushels more than where it had been applied only one year. This fact, we think, shows the permanent effect of muck as a fertilizer. The oat crop on this land yielded sixteen bushels per acre, of good quality. In consequence of the cheapness of manuring, and the ease with which this land is cultivated, there can be no doubt, we think, but the net profits of the crops raised on this land, are as great as those on the best lands of the farm.

Dea. Humphrey is fortunate in possessing quantities of muck *of a good quality*, lying near the spot where it is to be applied. This is not always the case, and, therefore, great care must be used *in the selection* of muck. We rarely meet a farmer who seems to us to duly appreciate the value of muck as a fertilizer, and who avails himself of all the advantages which it offers. But it is not so in this case, as muck enters into all his arrangements for manuring and improving his heaps of manure. One or two ox-loads are distributed over the leanto floors, behind the cattle, every working day, and the succeeding day thrown into a long shed where the swine run, and from thence is carted to the fields. But to make it certain that *there shall be no loss*, the floors are tight, a little descending towards one end where a tank is sunk which receives whatever liquids are not absorbed by the muck. This is diluted by rain-water from the roofs, and then sprinkled on grass land.

Dea. Humphrey is a man of progress, and avails himself of all the helps that come within his means in order to facilitate the business in which he is engaged. So, as a matter of course, he was among the first to use a *mowing machine*. One that we saw in his barn, *Ketchum's Patent*, he had used four years, with a cost of less than one dollar for repairs. He informed us that the machine had been managed by an Irishman who had cut, as a general rule, one acre an hour, but when more was needed, it was not found difficult to cut at the rate of an acre in *forty* minutes.

He prefers the Ketchum to any other machine, and stated to us that his horses do not work harder with it in cutting an acre an hour, than they do in ordinary stubble plowing. A week or two after his grain is cut, he passes over all the fields with the machine, cutting down the stubble, and the weeds before they go to seed, rakes with the horse rake and uses the crop for litter under the cattle. Even under this rough usage, the machine does its work quickly and well, and keeps in order.

One of the pastimes in which the deacon indulges, when he wishes to keep away from the graver duties of the farmer, is the *propagation and rearing of Trout.* He has subterranean abodes for them as winter quarters, and different ponds for fish of various ages, as some of the elder fish, forgetful of their paternal relations, indulge their cannibal propensities, and swallow the younger fry whole! So the spawn is in one pond, on beds of white gravel, the yearlings in another, while the two-year olds and upwards, fraternize and seek their prey in another direction. His operations, so far, are somewhat experimental, but they certainly promise success.

Since writing the first notice of this farm, many inquiries have been made of us, both verbally and in writing, for more minute particulars in relation to some special points,—and among these inquiries we find the idea seems to prevail that the proprietor is a *capitalist*, and can enter upon any system of improvements he pleases, without detriment to his farming operations. Had such been the case, our interest in the matter would be feeble compared with what it is now, as we desire to see improvements made through the avails of the farm itself. On this point, after speaking of some labor-saving contrivance recently engaged in, the deacon said, "I wish it to be understood that *we make no improvements but what the farm pays for*—first earning the money through the regular operations of the farm to pay for all we do."

There were several other matters of interest presented themselves as we passed over his farm, but our article is too long to refer to them now.

ASHES—SOME WAYS TO USE THEM AS MANURE.

1. One excellent way, is to scatter them thinly over the ground, and leave the dressing to soak into the soil. This is the best mode on meadows that you do not wish to plow.

2. They may be applied in the same way to land which you are going to plow for corn or potatoes.

3. Unleached ashes may be applied to corn after it is up, at the rate of a tablespoonful to a hill, partly as a manure, and partly to arrest the ravages of cut-worms.

4. It may be profitably used as a dressing for strawberry beds in the spring. It should be applied dry, and spaded in. Strawberries love an application of this sort.

5. They may, when unleached, be strewn over crops when growing. Such as grapes, or oats, or other grain. They should be scattered dry.

6. They may be scattered with the seed of winter grain, and will often thus be of great use.

7. They form an excellent dressing for lands, to be used for fruit trees. They contain so much of what is needed for the growth of trees, that a generous application of ashes, plowed in deep, will be beneficial. Trees already set out, may be helped by spading in ashes sparingly about their roots.

8. Applied to clay soil, they soften it. Used on sandy soil, they harden it. Scattered on sour land, they correct its acidity. They are quite generally useful.

For the New England Farmer.

MARYLAND STATE FAIR.

[From our Special Reporter.]

Baltimore, Md., Oct. 22, 1858.

The State Fair of Maryland closes to-day after a very successful week. In many respects it has been superior to our State Fairs in New England, while, in others, it can hardly compare very favorably. The show of Devon stock was superb, and Mr. Patterson was on the ground with some of the finest Devons in the country when considered with reference to dairy qualities. I had the pleasure of becoming acquainted with him, and of hearing from his own lips the statement of his efforts and experience in introducing and breeding this class of stock. I was particularly glad of this opportunity, and improved it to the best of my ability. His stock is very different from the type of modern improved Devons frequently met with at the North, and his efforts to get milk from them have not been without success, but his cows are larger in the bone, coarser in form and defective in the crops.

On my saying to him that we had many Devons in New England, that went under the name of Patterson Devons, he laughed and said that he had to bear the responsibility of many that had not a strain of his stock in their veins. Mr. Patterson exhibited the finest formed Devon steer that I ever saw. The show of Jerseys was also very extensive and highly creditable, but not to be compared with this class at the Massachusetts State Fair last fall. The Ayrshires were numerous, and many of them very fine. The short horns were limited in number, and they are fast giving way, in this section, to other breeds. A herd of imported Holstein cattle attracted considerable attention. They are said to be very good as dairy stock, and to adapt themselves readily to this climate. They are nearly all black in color, some of them having white faces. Some of the finest Cotswold sheep were exhibited by Mr. CARROLL, an extensive sheep breeder about twenty miles north of Baltimore.

In the department of agricultural and mechanical implements the exhibition was also extensive and creditable, though not so much so as we naturally expect in Massachusetts.

Gen. WILLIAM SUTTON, of Salem, delegate from the State Board of Agriculture to the National Agricultural Fair at Richmond, is in attendance to-day and expresses himself as highly gratified with the Maryland State Fair. He was invited, together with your reporter, to be present at the meeting of the society last evening, when the reports of committees were made and the elections of officers took place. Prof. J. W. HOYT, of the Wisconsin *Farmer*, is also present, and I have been exceedingly gratified by his acquaintance. Tomorrow we shall be *en route* for Richmond, where I shall inform you of the character of the exhibition of the United States Agricultural Society.

I understand that the Patent Office Report for 1857 will be issued in about two weeks. It is delayed now by the engraving only, and this is nearly completed.

Corn and other vegetation in the vicinity of Baltimore is as green and flourishing as it is with us on the 10th of September. SYPHAX.

For the New England Farmer.

ROOT CROPS.

I noticed in the last *Farmer* the article of D. NEEDHAM, on English Turnips. Can he pull, cut off the tops and put in the cellar a hundred bushels for three dollars? If he can, I shall try and hire him to gather my turnips.

As to cutting them up, and feeding them out, I found it quite a job. Fifteen or twenty years ago the root-crop was quite fashionable in this region. Almost all our farmers went into it, and the few who did not were looked upon as being behind the times, poor farmers, &c. The raising of ruta bagas, English turnips, and such crops, to any great extent, is as unfashionable with our farmers now as it was the reverse then. *Why* this change, is not for me to say. Why *I* changed I am willing to tell.

My first trial was to throw about three or four papers of ruta-baga seeds over my menure heeps that I was going to put in the hill for corn. It worked finely. I had a grand crop, more than one hundred bushels to the acre. They cost almost nothing, as you would look at it, but the corn told a different story. In those hills that had one or two good stout turnips the ears were small, and many of the stalks had no maturing ears on them. As near as I could estimate I lost at least half the corn crop in the hills where the turnips were, say twenty bushels to the acre.

The next year, on the same land, I tried English turnips—they also did well. But the corn suffered again, and was not near as good as when I did not sow the turnips. I found if my hired help had to carry out three or four bushels of turnips in the morning and cut them up and give them to the cattle, it took not less that fifteen minutes to the bushel. They increased the product of milk, but not of butter, either in quantity or *quality*. This was not all—I found on careful experiments that I have never been able to raise a great crop of grass after turnips till I manured again, or gave the land extra manure. This has been my experience as to effect. On the rich land of the West it may do.

As to the goodness of the crop to feed out, I would not let you put one hundred bushels of turnips into my cellar if you would give them to me. They would scent the whole house more than they are worth, and I would not feed them out for them. E. E.

REMARKS.—Our correspondent is a clear thinker, and bold writer; does not hide his light, usually, or qualify his opinions, so as to weaken their force. Does not the withholding his name and place, in this case, imply a *little doubt* whether he is quite right in his views about the root-crops? We are glad of his observations nevertheless, because this will lead to investigation, and every farmer *ought to know* whether the crops he feeds to his stock are profitable or not.

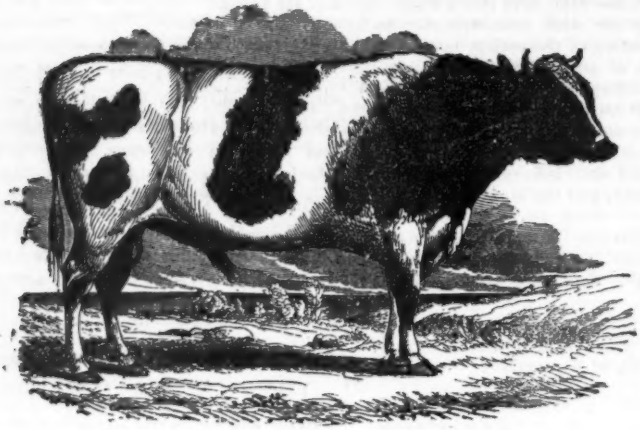
For the New England Farmer.

ROCK-LIFTER AND WALL-LAYER.

In the *Farmer* of Oct. 1, I saw a letter from your "Woods Hole" correspondent, "I. S. T.," in which he attempts to enlighten you in relation to our rock-lifter and wall-layer. But as is frequently the case with those who wish to enlighten others, your correspondent evidently needs light himself. He says there has been one of this same construction and manufacture in use at the State Farm at Westboro' for three years past, and one on the farm of Mr. R. S. Fay, at Lynn, for the same period, and that he has used one himself for eight years, &c.; in all of which he is mistaken. There is no such machine at the State Farm, nor at Mr. Fay's, neither has he one himself. The machine to which he alludes is one got out by Mr. DEVOL, and as you say in your remarks, is a very useful machine, and if he has not been, he ought to be, amply remunerated for his study and enterprise in getting it up; but Boles' patent is a decidedly better machine, as we claim, and such is the invariable opinion of all disinterested men that have seen them both in operation, as far as I have ever known or heard. The machine to which he alludes is erected on four wheels; ours stands on two, and can be moved and set over a rock or on the line of a wall as readily and with as much precision as a common ox-cart. With the Devol machine the rocks are hoisted by man-power applied to brakes or cranks. With ours the hoisting is done with a horse or oxen, saving much hard manual labor, and doing the work much faster. T. ELLIS.

Rochester, Mass., Oct., 1858.

ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS, for 1859, with 144 engravings. This is the fifth number of this popular work; a work containing more valuable suggestions to the farmer and horticulturist than many volumes of more pretending titles and size. It is made up by J. J. THOMAS, one of the clearest and most practical writers among us, and published by LUTHER TUCKER & SON, at Albany. For sale by A. Williams & Co., Boston.



PORTRAIT OF AN IMPORTED DUTCH BULL.

In our last we gave the portrait of a beautiful imported Dutch cow, the property of Winthrop W. Chenery, Esq., of Watertown, Mass., and having introduced that illustration of this breed of cattle to the reader, we propose now to present another view of it, and make the subject as complete as possible.

The animal figured above was also imported by Mr. Chenery in 1857, from Holland, near the Beemster, in the northerly part of Purmerend. This animal illustrates Mr. Flint's new work on Milch Cows, and we draw the following description from the same source.

The Dutch cattle are, in general, renowned for their dairy qualities; but especially so are the cows of North Holland, which not only give a larger quantity, but also a very good quality, so that a yield of sixteen to twenty-five wine quarts at every milking is not rare. Next to these come the West Friesland and South Dutch cows, from which from twenty to twenty-four quarts of milk may be calculated on. Though one could not take a certain number, and calculate surely what the yield of each cow would be, yet he could come very near the truth, if he reckoned that a cow, in three hundred days, or as long as she is milked, gives, on an average, daily, from six to eight quarts of milk, from which the whole annual yield would be from one thousand eight hundred to two thousand four hundred quarts. Of this, the cow gives one-half in the first four months, one-third in the next three, and in the remainder, one-sixth. These superficial results cannot be taken, however, as the fixed rule.

Of the cows of Gelderland, Overyssel, and Utrecht, the yield cannot be reckoned higher than sixteen quarts daily, and that only during the first half of their milking season.

For the New England Farmer.

HOW TO PREVENT BUILDINGS BEING STRUCK BY LIGHTNING.

Mr. Editor:—I have seen several communications in your papers of the last few weeks on the subject of electricity, and its agency in the firing of buildings. Many of the statements that have been made are true, both in regard to the laws that govern the fluid, and other matters in connection with the subject, but none of them give a remedy that can be used to avoid the disasters that arise from the "equilibriating of these imponderable forces." As Franklin's practical mind led him to say "*Qui bono*," to know how the trouble is generated, is of no value if we cannot find a cure, so I would ask, of what value all these statements? What we want is, to know how we may guide these great forces, and if we cannot make them subservient to our interests, and prevent their doing us injury.

The protection of buildings from the disastrous effects of lightning, and thereby the saving of human life, is the most valuable practical application of the theories of electricity; and undoubtedly with this end in view, the inventive genius of our people has been turned in this direction during the last few years, bringing out some half-dozen different lightning rods, and as many different insulators; but all, I believe, to very little purpose, for still our buildings are struck by the bolt, life is endangered, and property consumed.

The great question, then, recurs, "How can we

be protected?" I answer, *by thoroughly ventilating a building, you perfectly protect it.* I have never known of a building being struck by an electric bolt that was well ventilated, but on the contrary, if you examine into the circumstances connected with one that has been struck, you will find that the chief damage was done to that part which was the poorest ventilated.

One of your correspondents says, "seven-tenths of the buildings struck by lightning are barns, and this occurs during the curative process of the hay;" this is undoubtedly true, for without doubt, our barns are less ventilated than any buildings we have, and certainly very much less in proportion to their requirements, and that they should be fired by lightning is only the natural result of great natural causes; if we wish to avoid the result, we have only to remove the cause.

Let us look for a moment at the process that is carried on during the making of hay. Nearly all vegetables, especially the grasses, are highly charged with electricity, both positive and negative, and by their mutual attraction they hold each other in subjection. After the grass is cut, evaporations begins, and if it be a good hay-day, goes on very fast. Volta has shown very conclusively, that "the evaporation of water sets positive electricity free, which goes into the atmosphere, while the negative fluid remains in the body from which the water was evaporated." The farmer then puts into his barn a quantity of hay highly charged with negative electricity, and this process he carries on from day to day, until at last he has completed one of the largest and most powerful batteries that could be conceived of; in a few days, clouds form and hover over his building; they are charged positively, as the atmosphere usually is. Nature, true to her laws, must establish an equilibrium between these two bodies of electricity; the positive fluid in the cloud enters into union with the negative fluid in the hay, intense heat is evolved, and the barn is fired. Now, how could this result have been avoided? The cause was unavoidable; the positive fluid *must* go into the atmosphere, because it had a greater affinity for that than for anything else; the negative had a greater affinity for the hay than anything it came in contact with, and must remain; after the positive fluid had escaped into the air, it was beyond the control of man, and only subject to the control of the winds.

If the lightning rod theory could be carried sufficiently far into practice, it would answer our purpose; if this cloud could be pierced by a good conductor, putting it in connection with the ground, the great reservoir both for the absorption and for the supply of this fluid, then the positive body would pass silently down until an equilibrium was formed; but this is simply an impossibility; we must next turn our attention to the negative fluid, to remove that. We learn from Coulombe, that the laws which regulate the gradual dissipation of electricity have been investigated, and the causes which operate are,—"1st. The imperfection of the insulating property, and 2d. The contact of successive portions of air, every particle of which carries off a certain quantity of electricity." His experiments show conclusively that electricity is capable of being transferred like caloric, and that as water is one of the best conductors, any portion of it suspended in the air tends to carry off electricity from bodies charged with it.

Now if this theory be true, and it has never been controverted, what prevents our so constructing our buildings as to be able to send currents of air through them at our will, and thus remove the negative body, and by removing it, move the cause of our troubles? It is as necessary to apply this system of ventilation to our dwellings as to our barns, if we would protect them, for it is found that the air of close rooms, vitiated by respiration, is negatively electrified. In olden times, when the good old-fashioned fire-place was in use, we had a more perfect ventilation than we have now with our air-tight stoves and furnaces; then our dwelling-houses were not damaged by lightning, although we had no protecting rods, and the only way that we can secure to ourselves the same immunity that we enjoyed then, is to return to an equally efficient system of ventilation; this can be done without much trouble, at one-half the cost that would be met in covering our houses with rods.

And now, Mr. Editor, one word to the farmer, and I will close this communication.

Barns, as they are being filled with new hay, should be kept open night and day, and if there is a window in the roof, that should be kept open also, for at least thirty days after haying is finished; but this will not be sufficient to ventilate a large bay of hay, and a portion of the floor should be constructed with slats secured underneath with a tight box, (so as to exclude the exhalations from the cellar,) connecting with a pipe running to the outside of the barn; by this plan currents of fresh air might pass continually through the mow, keeping the hay in most perfect condition, free from all these dangers we have been considering, and also from any decay or *must* which is very common from imperfect curing.

ELECTRICITY.

Groton, Oct. 25, 1858.

CHINESE AGRICULTURE.

The *Pennsylvanian*, referring to a narrative of travels in China, published by a Russian officer, says:—

"This author, like every other who has visited China, bears testimony of the high development of agriculture in that mysterious country. The harvest in China, he remarks, 'produces fifty, seventy, and even a hundred fold. The cause will be found in the care with which they manure the ground, and the custom of sowing early, of weeding and watering, etc.' The acre of land yields in England, Germany and France, twice or three times as much as with us, but the Chinese agriculturist surpasses even the European by far. 'How infinitely inferior,' says Professor Liebig, 'is the agriculture of Europe to that of China! The Chinese are the most admirable gardeners and trainers of plants, for each of which they understand how to prepare and apply the best adapted manure. The agriculture of their country is the most perfect in the world, and there, where the climate in the most fertile districts differs little from the European, very

little value is attached to the excrements of animals. With us, thick books are written, but no experiments instituted,'" &c.

Travellers tell us of one particular attainment of Chinese Agriculture, which, though it is not always of practical value, indicates a wonderful knowledge of the laws of vegetable growth—that is, the power of enlarging or dwarfing, at will, many of the productions of nature. Thus, an oak tree, for instance, will frequently be seen growing in a flower-pot, bearing its thrifty little leaves, and bringing its tiny acorns to maturity, with all the regularity of its forest kindred, the entire tree not being more than two feet high. Such specimens of human ingenuity may be worthless, but they imply a knowledge and skill that are worth a great deal.

A NICE WAY TO MAKE APPLE TREES.

Get a tree from a nursery, (no matter what kind,) such as they send out, or if so large as to be unsalable, just as good. Let it be straight and thrifty. Cut it square off at just the height you want the top, and splice or whip graft on it, *one scion*, with three buds above the waxed paper with which it is wound. To make it more sure not to get displaced, tie a strip of bark around over the waxed paper, as tight as you can; set your tree, and it will make a beauty. Get the nurseryman to do it for you if possible, as he will do it better than you can. I have trees made last spring, that put out strong shoots two feet in length, precisely alike. This spring I cut back to six inches, and when the new shoots start allow six to grow, saving those well placed to make a handsome top. Next spring, shorten them one-half; after that, use your judgment. I have trees grown three summers, that look like miniature nature trees—*very fine*. I prefer such a tree, to one from a nursery ready to set. If your friend at the jumping off place send you a scion in a letter, you may have a tree better than one of the same sort got at a nursery.—*Rural New-Yorker*.

HOW CORN IS PRESERVED IN RUSSIA.—At a late meeting of the Academy of Sciences, held in Paris, a letter from M. de Semchoff—a Russion landholder—was read, describing the manner in which corn-pits are made in that country. The pit is dug in a dry soil, and instead of masonry, the sides are hardened by a long continued exposure to a wood fire. Before the corn is introduced, the air in the pit is ratified by burning some straw in it, after which the grain is thrown in, packed close, and the pit tightly enclosed. Corn has been preserved in such pits for forty years. Some of our western farmers, who raise large crops of wheat and corn, should try this method of preserving grain during years when there is a great yield, in order to lay up a store for seasons of an inferior yield.

WHITE BEANS.—We saw a fine sample of white beans the other day from the farm of Col. H. H. SYLVESTER, of Charlestown, N. H. Product, *forty* bushels to the acre! Samples of corn and oats from the same farm, were also very fine.

For the New England Farmer.

A POMOLOGICAL POEM.

BY R. H. TEWKSBURY.

Byron, 'tis said, drugged his sweet muse with gin!
And Bourbon whiskies Carlyle's laurels win!
What harm if I drink inspiration in
O'er the rare beauties of an apple-bin?

Here hues like glowing rubies mingle well,
And charm the gazer with their wizard spell;
If thoughts, poetic, steal unbidden in,
Can their expression be a *venal* sin?

'Tis said an apple, pressed by Eve's red lip,
Caused her and us the path of right to slip!
And yet, methinks, the still small voice within
Saith "apple-seeds are not the seeds of sin."

And, if 'twere so, they surely have made up
For half the woes drank in that bitter cup!
We, in their blessing, half our loss retrieve—
The curse a blessing's found, fair Mother Eve!

It brought us *Pippins* fit for angel's clutches—
The modest *Russetts* and the fair *Nonesuches*:
And crimson cheeks, like those of modest misses—
Fair apple-faces, tempting wood-nymph's kisses.

Some worship smoke, and through narghilehs suck it!
Some feed a drunken soul within, and duck it
With brandies, sherries, wines and Holland gins!
Mine thirsts for juices held in apple-skins!

Not that vile beverage held in cider casks,
Or bottled off (for medicine?) in flasks;
But the rich juices held in crimson rinds—
Distilled by dews and flavored by the winds;

Drank from dame Nature's goblets, fresh and fair—
Sweetened by breath of perfumed summer air—
Stirred by the rushing of the northern breeze,
And colored by the life-blood of the trees.

Perverted taste to swinish morsel stoops,
Makes food of frogs, and doats on turtle soups!
Give me for food the nutriment that lies
Between the crust of generous apple-pies!

As Sancho Panza called the saints to keep
The feet of him "who first invented sleep,"
So I would bless the matron, kind and wise,
Who, bless her soul, invented apple-pies.

When they appear—ye dainties stand from under!
A dish for kings who rule or gods who thunder;
Seek for a better with a golden purse—
You may go farther but you'll sure fare worse.

To wisdom-seekers Solomon has told,
That 'tis like *apples* wrought of molten gold!
He lost all faith in man, all love for wives;
His faith in *apples* last of all survives.

So friend, (of course this lies 'twixt you and me,)
Go, first of all, and plant an apple tree!
That when thy frame decays and heart grows cold,
Old age may gather apples tinged with gold.

Lest Discord's apples block life's troubled way;
And Sodom's apples youth's neglect repay;
And *seeds* (not apple) sprout with every sin
And *fruits* (of wickedness) grow rank within.

Do thus, and when thy Christian friends may slip in,
Ask them to take the juices of a pippin—
And ease life's burden and earth's darksome cares,
In feasts of reason o'er huge bowls of pears:

For men are known, and judged too, *by their fruits!*
Not so the groveling swine or lowing brutes;
So bring us, friends! when we may chance to call,
The *early picked*, plucked *just before the fall*.

Old Orchard, Oct. 15, 1858.

REMARKS.—Capital, friend T.—"drop in often."

For the New England Farmer.

ORNITHOLOGY.

BY S. P. FOWLER.

The Passenger Pigeon (*Columba migratoria*) is, on some accounts, one of our most interesting birds. Our attention to the bird is not excited by its pleasant and charming note, for it has none; nor for its familiar and confiding habits, evinced by its rearing its young in our orchards and gardens; it being an inhabitant of our woods and but little dependent on our cultivated fruits and grains for its support; as it is in the forest, that it rears its young, and obtains its principal food. It is its gregarious habits principally that make it so interesting to an ornithologist, there being no bird like it in this wide world, in this particular. Indeed, there is nothing like this gregarious propensity, as seen in our wild pigeon, in all animated nature, if we except the vast shoals of fish that sometimes visit our bays and rivers. The bird possesses beauty and symmetry, particularly the male, in his second year, dressed in his nuptial suit, glowing in metallic lustre. His robust and compact form of body is just suited to give room for those powerful muscles to play, and move those long and sweeping wings, that require, in order to control them, a long stretching oar, in the shape of twelve sharp-pointed, long-tail feathers. These wings possess power enough to force the bird through the air, at the rate of a mile a minute, its estimated usual speed. The use it sometimes makes of its wings in beating the mast or beech nuts from trees, to obtain food, discovers to us their power and strength; none but the strongest pinions could long withstand this rough usage. When on the wing, the wild pigeon never flags or soars, but presses onward in a rapid flight, John Gilpin like, intent on accomplishing its journey in the quickest time. In fact, in point of speed, we may regard the passenger pigeon a perfect *clipper* amongst our birds.

To the eye of an ornithologist, it also presents, by its admirable steering apparatus, its great ability to perform evolutions difficult to most birds. This is seen when the bird is passing over the country, in its most rapid flight, and fancying it discovers food in the fields below, by a short curve it sweeps to the earth, and when within a few feet of it, checks its speed by short downward strokes of its wings. But should it not alight, being deceived in its expectation of food, or apprehensive of danger, it alters its downward course, and gracefully, by describing a circle, rises again into the air, and pursues its journey. Where other evolutions are performed by the pursuit of birds of prey, each individual bird composing the flock, doing the same thing at the same time, the effect produced upon the beholder is the same as upon viewing the rapid manœuvres of companies of dragoons. The nidification of the passenger pigeon has been the occasion of controversies amongst ornithologists. Wilson says they have only one young at a time, and breed three or four times in a season. Audubon says their eggs are two in number, and it is a remarkable fact, that each brood generally consists of a male and female.

Giraud, in his "Birds of Long Island," says, "I have heard frequent controversies relative to the number of eggs deposited by the wild pigeon. I can assure those who are of opinion that it lays but one egg, that the number is two, though generally but one young bird is found in the nest." This is accounted for by the inequality of the hatching, one usually precedes the other a few days, and the remaining egg, or young, as soon as it appears, is thrown from the nest by the first comer. The only nest of this bird we ever discovered in Danvers, was built upon a lofty white oak, and contained two white eggs. Its architecture was rude and of the true platform style, a few dry sticks carelessly placed together, and through this loose scaffolding, with the aid of a glass, the eggs could be seen from below. Have the readers of the *N. E. Farmer* observed the eggs or young of the wild pigeon? But it is its gregarious habits, as we have before said, that are peculiar, and have been noticed by many naturalists and travelers, but by none more closely than by Mr. Audubon, whose account of the bird is very full and remarkable.

Mr. Charles Waterton, an English ornithologist, is very severe upon portions of Audubon's account of the passenger pigeon, in what he says he saw of the assembling together of astonishing numbers of these birds in Kentucky. The exceptions made by Mr. Waterton, are to Audubon's account of the assemblage of foxes, lynxes, cougars, bears, raccoons, opossums and pole-cats, to feast upon the pigeons congregated together, of the many trees he observed, which were broken off at no great distance from the ground by the weight of these birds on their tops, of their arriving by thousands, and alighting everywhere, one above another, until solid masses as large as hogsheads were formed on the branches all around. To this, in a querulous way, Waterton says, "I now leave the assemblage of wild beasts, the solid masses of pigeons, as large as hogsheads, and the broken trunk of the tree two feet in diameter, to the consideration of those British naturalists, who have volunteered to support a foreigner, in his exertions to teach Mr. Bull ornithology in the nineteenth century. And by the way," continues Mr. Waterton, "at the end of Mr. Audubon's 'Biography of Birds,' I observe a most laudatory notice by Mr. Swainson. He tells us that Audubon contemplated nature as she really is, not as she is represented in books; he sought her in her sanctuary. Well, be it so; I do not dispute his word; still, I suspect, that during the search and contemplation, either the dame herself was in liquor, or her wooer in hallucination."

Now we believe that all Mr. Audubon says he himself saw of the wild pigeons, on the banks of the Green river in Kentucky, is true, notwithstanding what European naturalists may say to the contrary. They must not judge of the habits of our fast, gallant and truly American bird, with half a continent like ours to range in, and which possesses such powers of flight, that in twenty hours, every pigeon in the Union could meet together in one great mass meeting, with the gentle, quiet, short-winged doves of Europe. I see Kalm, in his travels, notices the breaking and falling of trees, in a partial state of decay, by the weight of pigeons on there tops. Such may have been the condition of the trees broken, and noticed by Audubon. When old and bare of leaves,

they are always favorite resting places for wild pigeons. Our bird has a very extensive range, being found from the Gulf of Mexico to Hudson's Bay, and probably further north, for I find the following notice of it in the appendix to the third voyage of Sir John Ross, page 29. "A young male passenger pigeon flew on board the Victory, during a storm, whilst crossing Baffin's Bay, in latitude 73½ degrees north, on the 31st. of July, 1829." It is a singular and interesting fact, that it had never been seen so far north before.

Danvers-Port, Oct. 1, 1858.

For the New England Farmer.

LETTER FROM VERMONT.

Crops—Apples and Cider—Winter Evenings—Annual Fairs—Horses at Premiums—The Legislature—Thanksgiving Day—Promotes Matrimony — Gratitude of Old Folks — Winter Schools.

DEAR FARMER:—Thinking that a word or two by way of remembrance, from away up in Vermont, might not be entirely unacceptable to your columns, I am seated with a view of making a "scratch," which you will be at liberty to use, only in case you should lack the usual quantum of interesting matter, with which you come so constantly laden.

Our crops, which so recently covered these hills and valleys in great variety, are now nearly all gathered in, and our barns and garners are literally groaning beneath the abundance which fills them. Among all our harvest, are we short in nothing, unless perhaps it be a partial lack of apples (and cider) in some localities. And by the way, a failure in this crop, is seriously felt, since we must have the long winter evenings, and how shall we get on with the stories and chit-chat, without the apples and cider? Too long have these been associated together to be parted lightly. O, those glorious old days, when these hearts were younger, so well remembered, before fastidious, foolish fashion and misnamed, hypocritical refinement, had usurped the places of generous hospitality and frank, honest sociability, that we so well enjoyed in those plain old homes, when the products of God's bounty were used without stint or measure.

That reliable personage, the "oldest inhabitant," is said never to have seen so abundant a crop of corn as the present season has yielded, in all parts of our State. In fact, every farmer finds himself much in the same condition that the old fellow over in New Hampshire once did, who happened to be favored with a crop of sound corn, (a very rare thing for him,) and complained to his neighbors that he had nothing to fatten his pork on, as he had no hog-corn. And we have quite eschewed the cant phrase of "small potatoes and few in the hill," for the present very much resembles the old-fashioned crops of this root. So with plenty of corn and potatoes, we Green Mountain boys (and girls, too,) can get on right well, even though the Atlantic Telegraph should not work very satisfactorily at present.

Our Annual Fairs, State, county and town, have all passed off, and I suppose they have never been more satisfactory than the present season. A grand show of all the necessaries, comforts and luxuries of life have never failed to be exhibited—always accompanied with sufficient specimens of taste, fancy, ornament and skill to satisfy all for whose good opinion we care, that though ours are humble homes, and productive, remunerative labor is our lot, nevertheless, these wives, these sisters and these daughters, (Heaven bless them all for their goodness,) are not alone fitted for drudgery, but can show true polish, and are not a whit behind any of their fair sisters in any regard.

One thing in connection with these fairs which I regret to notice, namely, the increased attention that horse-racing is receiving, as though it was of the least possible consequence which of two or more cheap horses can the soonest by a second or so go over a half-mile track. Is this the true test of a good horse? Is it of more importance that an animal can go fast, than that he is kind, gentle, tractable and easily managed, that he have bottom and capacity for and a willingness to labor? Is it of more importance that the caprice of fast young men be gratified, rather than that the real wants of the family should be consulted, with reference to horse-breeding and horse-training? Then why is so much pains taken and so much money offered to promote this objectionable feature in all our State and county gatherings?

It seems to me that in these utilitarian days, more regard should be had in offering premiums to the real and intrinsic value of things. Is there any good reason why an overwrought harness, a fancy buggy, or a fine wooled buck or ewe, should receive double or treble the sum given for the best acre of corn, wheat or potatoes, or the best plow or harrow? True merit resting on the foundation of usefulness, ought more to be regarded in awarding prizes. And why are not more frequent rewards offered for important and successful experiments in agriculture, or for instructive and valuable essays on the same? Are these of less consequence to the community than a fast horse or a showy carriage or harness? In my view, a single letter from your correspondent, Judge French, detailing the inception, progress and result of a single experiment in draining wet, or reclaiming worn-out lands, is of a thousand times more value to the wants and wealth of the country than all the reports of the "turf" that have or will be made while time lasts.

Our Legislature is now in session, and the machinery of law-making is in full operation, and will doubtless turn out results about as consequential as would be the settling of the great question of the difference between "tweedle-dee and tweedle-dum." "We are governed too much," is now as true as when first uttered. By adopting biennial or even triennial legislative sessions, the true interests of our little State would be advanced.

"Thanksgiving Day" has been appointed, and will soon occur; and O, how many hearts dilate and grow warm on the return of this time-honored occasion. Children love it, because of its sports and its bounties—young men and maidens love it, as it is so often made the culminating point of their love and hopes—and old men and matrons reverence it sacred in their recollections, as the day on which they twain gladly became one flesh and have since borne each other's burdens. Nowhere is there more real, heart-felt joy and thankfulness on the return of this blessed old

day, than around the homes and hearths of Vermont. "May its shadow never grow less."

Then comes "Monday after Thanksgiving," when our winter schools uniformly commence. These need a chapter by themselves, which I hope to have time to attend to in season. E. J.

EXTRACTS AND REPLIES.

HOW TO DESTROY CANADA THISTLES.

I own a piece of ground which was anciently used as a pasture, there being a small spot of what we call Canada thistles on it. More than forty years ago I broke up and summer-fallowed it. After raising two crops of grain, one of wheat, the other oats, it was seeded down with clover and herds grass. Since then it has been used as a mowing field, having been mowed every year since. Still, that spot of thistles not only remains, but has gradually increased. Now, as I consider this a singular case, never before having failed to exterminate a spot of thistles in three years mowing, I wish you, or some of your correspondents, to explain this mystery, and tell me how I can kill said spot of thistles. J. D.

Lebanon, N. H., 1858.

REMARKS.—Plow deep the offensive spot, manure well, and plant potatoes on it. Hoe them thoroughly, suffering not a weed or a Canada thistle to grow among them. Plant corn on the same spot for one or two succeeding years, with the same faithful culture, then sow to grass, and you will probably be able to tell the world how perfectly you succeeded in suppressing a plant which once exercised the wisdom of sage legislators in your State to devise means to destroy.

Cutting down Canada thistles and burning them on the spot will not affect the roots so that they will not spring up again. The Plow and the Hoe are the civilizers that succeed.

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PROFITS OF DWARF PEAR CULTURE.

Allow me to state for the benefit of those who douot the success of dwarf pear culture, that from less than ½ of an acre planted 7 years ago, of Duchess de Angouleme dwarf trees, I have since sold over $400 worth of fruit, and that this year my best pears sold here to go to Philadelphia at $25 per barrel, and the second quality in New York at $17 per barrel. The culture is no more expensive thus far than the same ground planted to potatoes. My best barrel contained 166 pears. The trees are very vigorous and strong, and give promise of abundant productiveness in future. T. G. YEOMANS.

Walworth, N. Y., Oct., 1858.

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BLAST IN MELON VINES.

Your subscriber, H. T. WISWALL, of Marlboro', N. H., wishes to know the cause of blast on melon vines. I have been in the habit of raising more or less vines for twenty years, and have always met with the same difficulty when I planted my vines on the same ground more than one year. My mode of raising vines is this; in the spring or fall, I break up a piece of green sward and dig holes in the ground as large as a bushel basket, and fill that up with coarse manure; cover that with a light coat of loam, and plant my seed on that, and I never have failed of a crop. I have made up my mind that it is a worm in the old manure which destroys the root and causes the blight. I have had them destroyed after the melons were as large as a two quart measure. I have raised two melons this year that weighed 46 pounds. I think if the subscriber will try green sward, he will find no difficulty in raising a crop. My time of planting is about the 20th of May. J. LEWIS.

North Springfield, Vermont.

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SPARE THE BIRDS.

Can it be, Mr. Editor, that our friend, the eminent cultivator of West Danvers, is sincere in his argument for the destruction of the robin? I have ever looked upon him as a man of peace, and amiable propensities. I have therefore read his high-wrought rhapsody against the robins with pity and astonishment.

What, shall the robins be wantonly killed because, when no other food is at hand, he sustains life by picking berries from worthless shrubs? Did not the power that created the robin endow him with an instinct to sustain life? Who has the right to complain of his efforts to do this, notwithstanding the title deeds of the most grasping miser? If the truth were fully known, I think our friend would be found much more disturbed by the injuries done to his cultivated fruits, and the diminished income consequent thereon, than by any injury done to his neighbor's pastures. Neither he, nor any other person, has the right to proclaim, "I am monarch of all I survey," but all God's creatures have their right to as fair proportions. And I hope it will be a long time before he will again appear as the advocate of such selfish notions. Possibly our friend may think, that he can make wiser and better laws than his predecessors have done.

October 23, 1858.

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COMPOSTS, MUCK AND ASHES.

Allow me to bring your attention to an article in your work under the head "Composts Muck and Ashes," on page 405 in your *N. E. Farmer* for September, which requires to be written over again. You quote "15 to 20 bushels of ashes (wood ashes) or 90 pounds of potash are required to a ton of peat."

In a following paragraph you say of yourself—"five bushels of ashes to a cord of muck has been found sufficient."

These two accounts of the quantity of potash differ enormously.

In the first statement, 15 or 20 bushels ashes are necessary for a ton. In the second, "5 bushels of ashes to a cord." A cord must be equal to 3 tons.

One statement 15 to 20, and by the other, less than 2 bushels for the same quantity of peat.

By the first statement, 90 pounds of potash is required for a ton of muck or peat. Now what would this cost? Evidently too much to be afforded by any farmer who could not agree to pay

5 or $6 for a material to make a ton of manure. The article states that *any alkali* will produce the desired effect upon peat. Will common salt produce as salutary an effect as potash?

I hope you will examine this question. It is of the utmost importance, and if the 90 pounds of potash can be reduced to 9 pounds, it should be known.

I think you will be doing the public and your subscribers a favor by giving accurate information on the subject of converting peat into a manure *cheaply*. S. T.

Nahant, Sept., 1858.

REMARKS.—The above article happened to get shut up in the September number referred to, and that must account for the delay in noticing it.

We have no doubt that the "ninety pounds" should read *nine* pounds, for that would certainly afford a fair amount of alkali for a ton of old muck, when dissolved and sprinkled thoroughly through it.

We do not think that common salt would produce as quick, or so desirable results as the potash, at an equal cost.

—

CULTURE OF CRANBERRIES.

I have a piece of ground which I wish to appropriate to the culture of cranberries, if suitable; now what I wish to know is, what kind of soil is most suitable, what manner to introduce them into the soil, and how to prepare it, and at what time, also the time of flowing, and how long? And in short, all the information you see fit to give, and oblige J. C. MARTIN.

Amesbury, Mass., Oct., 1858.

REMARKS.—In the Monthly *Farmer* for November, 1857, there is a carefully prepared account of cultivating cranberries, consisting of three or four pages, in which we think you will find all you want on the subject.

In the Transactions of the Massachusetts Board of Agriculture for 1855, there is also a detailed account of the culture of the cranberry.

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JEFFREY'S PATENT BALL VALVE PUMP.

Can you, or any of your correspondents, inform me about Jeffrey's Patent Ball Valve Pump for deep wells, the cost of them, and where they can be seen, and oblige many a farmer that has a deep well. A SUBSCRIBER.

North Reading, Mass., Oct., 1858.

REMARKS.—We cannot—we have seen the pump, but do not know where pump, patentee or manufacturer can now be found.

—

A GOOD YIELD OF POTATOES.

For an experiment, I planted one potato, the 21st day of May last, in ten hills, and dug them the tenth day of October, and from that one potato I obtained one bushel and four quarts of sound potatoes. J. W. HALL.

Barton, Vt., 1858.

BASKET WILLOW.

Where can I get any information about the culture, value, &c., of the basket willow? Please inform me through the *Farmer*, and oblige a subscriber. E. A. MULLIKEN.

Lexington, Oct., 1858.

REMARKS.—In the Monthly *Farmer* for January 1854, is a capital article on the subject by CHARLES DOWNING, Esq., of Newbury, N. Y., and in the Transactions of the Norfolk County Society for 1854, there is abundant information on the subject by JOHN FLEMING, Jr., of Sherborn.

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NATIVE COWS, BEST FOR MILK.

"I have very often heard the best judges of stock say that if they desired to select a dairy of cows for milk for sale, they would go around and select cows commonly called native, rather than resort to pure bred animals of any of the established breeds, and that they believed they should find such a dairy the most profitable."

Flint's Treatise, p. 54.

I want no better testimony in favor of our New England stock than this. It entirely accords with my own observation, which has not been short or limited. ESSEX.

Oct. 20, 1858.

—

COW SHEDDING HER MILK.

Will you inform me through the *Farmer* what will prevent a cow from shedding her milk?

October 14, 1858. A SUBSCRIBER.

REMARKS.—It is said that the use of Collodion, applied to the aperture in the teat for a few days, will prevent the leakage. We have never tried it.

—

FAT STEERS.

Mr. E. Mehuran, of Middletown, Vt., has a four year old steer, weighing 2000 lbs. Mr. R. S. Wells, of Wells, Vt., has one of the same age weighing 2160 lbs.

—

WILD LANDS IN MAINE.

We have no means of giving our correspondent, "P. T.," at East Wilton, N. H., the information he desires about the "wild lands in Maine."

HOW TO LAY OUT A GARDEN.—This is the title of a work intended as a general guide in choosing, forming, or improving an estate, from a quarter of an acre to a hundred acres in extent, with reference to both design and execution. By EDWARD KEMP, Landscape Gardener, Birkenhead Park, England.

The work before us is a reprint from the second London edition, and is published by *Wiley & Halsted*, N. Y. It is written in a pleasant and attractive style, is handsomely printed and illustrated with numerous engravings, and embraces almost every conceivable design in its plans.

For sale by Crosby, Nichols & Co., Boston.

For the New England Farmer.

ANOTHER PLEA FOR THE ROBIN.

BY WILSON FLAGG.

I have lately become informed of some new facts in regard to the robin, which I think may be worthy of another communication to the *Farmer*. Before I had investigated the habits of this bird, with particular reference to the services he renders to agriculture, I supposed he was only of secondary importance, compared with the blackbird and others that possess the faculty of discovering and seizing the grubs that lie concealed beneath the surface of the ground. Though the robin does not possess this faculty, he is pre-eminently serviceable in other ways; and the more I have studied his habits the more I am convinced of his usefulness. Indeed, I am now fully persuaded that he is valuable beyond all other species of birds, and that his services are absolutely indispensable to the farmers of New England. Some persons believe that the robin is exclusively a frugiverous bird, and that for fruit he will reject all other food that is within his reach. Others believe that his diet consists about equally of fruits and angle-worms, but that he is not a general consumer of insects. The truth is, the robin is almost exclusively insectivorous, and uses fruit as we do, only as a *dessert*, and not for his subsistence, except in the winter, when his insect food cannot be obtained. He is not omniverous, like the crow, the jay and the blackbird. He rejects farinaceous food unless it is artificially prepared, derives almost his entire support from insects and grubs, and consumes, probably, a greater variety of species than any other known bird. I am entirely at a loss to account for this very prevalent and mistaken notion respecting the frugiverous habits of the robin.

Early in May my son caught and caged three young robins, and I encouraged him in the act, that I might be enabled to study their habits of feeding. He commenced by feeding them with angle-worms and soaked bread, giving them the latter very sparingly. They soon died, evidently from an excess of the farinaceous part of their diet. He then took three others from different nests, and fed them more exclusively on worms, with some fruit. Two of these also soon died, and the remaining one appeared ill and drooping. I suggested that the bird probably needed insects as well as worms, which alone were not sufficient to supply all the wants of the system, though he had access to cherries and soaked bread, of which he could eat whenever he wanted them. After this he was supplied with all sorts of grubs and insects which my son was able to capture. The robin devoured these indiscriminately and with great eagerness. He was never known to refuse one of any description; though bees and wasps were not offered him, all kinds of beetles, moths, bugs, grubs, vine worms, chrysalids and caterpillars which were presented to him he devoured.

After this improvement of his diet, the bird soon recovered his health; and the experiment proved conclusively, that this variety of insect food was necessary to the life of the bird, at least while he was young. These insects were not put into his mouth; they were placed upon the floor of his cage, and he picked them up, *killing them in a way that showed that he knew instinctively how to manage them.* I mark these words in italics because they contain an important fact. He was particular in beating the vine worm considerably before he swallowed it; but he never refused one or neglected to eat it. On one occasion, having swallowed a hard beetle, and finding it incommodious, he threw it out of his crop by a voluntary effort, beat it awhile with his bill against the floor, and then swallowed it again. This fact also proved his instinctive knowledge of the mode of proceeding in such emergencies.

It is a fact worthy of notice, that the golden robin, which has the reputation of performing more service than the common robin, may, when confined in a cage, be fed almost entirely on farinaceous food, without injury to his health. This fact is good evidence that the common robin is more entirely insectivorous than the golden robin. The contrary is generally believed.

The fondness of the robin for cherries and other fruit is not peculiar to his species; it is equally remarkable in almost all other insectivorous birds. The birds that do not eat cherries are generally of those species which are the least valuable to agriculture, such as the graminivorous birds, including most of the finches. And it is a fact which ought to be more generally known, that the most useful birds are such as are in one sense the most mischievous: they all steal either our fruit or our grain. Next to the robin, probably the most useful bird to agriculture is the red-winged blackbird, called the "maize thief," from his habit of stealing Indian corn, when it is in the milk. But the blackbirds are not sufficiently numerous or familiar in this part of the country to render us a great deal of service.

The truth is that nature does not afford us a benefit without exacting pay for it. Hence if a bird is particularly useful to our fields, he is sure to devour some portion of their produce. We must be content to pay them for their services, as we pay a hired man, for clearing our trees of borers and caterpillars. If it were possible to obtain an exact estimate of the services performed by the robin, we should be willing to pay him more than the value of what he steals, rather than dispense with his services. At present, however, it must be confessed that the robin tax falls chiefly upon those who raise cherries and other summer fruits. This is an evil which must be patiently endured for the common good. There are only two remedies of the evil to those who happen to be the unfortunate owners of cherry trees: the first is, to cut down all the trees on one's ground, on the principle of cutting off one's nose to spite his face; the second is, to induce all others to plant cherry trees, that the present possessors may have company in their misery. The extermination of the robins is out of the question, as it would be hardly advisable to sacrifice the interests of all the staple products of agriculture, to preserve a few bushels of cherries.

As an improvement of the second remedy, we should, as I have intimated in a former essay, encourage the growth of the high blueberries, on the borders of all our pastures in all parts of the country, especially in the vicinity of large towns. I observed in the early part of the season, that the cherry trees before my windows were filled with robins, whose numbers diminished as the fruit ripened and improved in quality. The ques-

tion was asked if the robins preferred the cherries before they were ripe. It was answered by remarking that as cherries became more abundant, their depredations were spread over a wider surface. This was hardly a sufficient explanation. The problem was soon solved, however, by discovering multitudes of robins in the blueberry pastures, where the berries had ripened in great abundance, and were preferred to cherries, by the robins. I am persuaded that a tree full of the finest of cherries in the middle of a blueberry pasture, would remain almost untouched.

For the New England Farmer.

FALL PLOWING.

The month of November is a favorable time for plowing grass lands that are to be planted the following spring. The weather now is cool and bracing, and favorable for the team, and there is generally leisure for doing the work. Also, the plowing being now executed, there is more time left in spring for other necessary operations.

Late fall plowing generally disposes of the cut worm, and the common grub worm, and also of their eggs, leaving, in this respect, a clean field for the next year's crop of corn or potatoes. I have found, by repeated experience, that it is unsafe for me to plant corn on green-sward plowed in spring. Either the cut worm or the grub, and sometimes both, will be pretty sure to damage the crop, in two out of three cases. But by late fall plowing they are cleared out of the land, and very few, if any, hills of corn are found missing the following season. My team is now breaking up a piece of green sward nine to ten inches deep, that has been much infested with grubs this season, so that in some places the grass is completely killed out. Quantities of the grubs are turned up to the surface in plowing, and often one may take up a handful of minute eggs, in a place, in the upturned furrows. Now this late and deep plowing quite disturbs the winter arrangements of the worms. If the land had been left unplowed, and covered with the grass sward, and, perhaps, through the winter, covered with snow, it would not have frozen very deep—perhaps not more than three to six inches deep, and that not permanently for the winter. But being plowed, the land will freeze solid, in one cold night, as deep as the furrows, certainly, and probably before mid-winter it will be frozen from one to two feet deep, remaining so till spring.

By turning the sod over in November, nothing green starts up, and the frosts of winter, immediately following, mostly kill the grass roots, so that the labor of planting and weeding the succeeding crop is less than after spring plowing. The frost also so divides and crumbles the plowed land that on harrowing in the spring the soil is easily reduced to a fine deep tilth.

In breaking up grass land in the fall, it is well to plow deep—from eight to ten or twelve inches, according to the quality of the land—so that when the manure is spread in spring, there may be enough loose earth on top, in which to bury the manure well, without disturbing the sod underneath. If the manure is unfermented, it may, by using a light plow, be covered from three to five inches deep, according to the depth of the fall plowing. This suits me better than it would to bury the manure down deep, under the sod, where it lies too inactive and powerless for the crop of corn. If the manure to be applied is fine compost, then it can be worked into the land sufficiently with a harrow or an ox cultivator.

The action of frost, snow, sun and rain, on the upturned subsoil, is highly beneficial to it, and improves the productive power of the land.

Land that has been planted with hoed crops this season, and is to be sown with grain and grass seeds next spring, may be plowed this month, provided it lies tolerably warm and dry, and is not subject to overflow, or undue wetness, during winter and early spring. By plowing it now, it will not need plowing again, but will be all ready to receive the grain and grass seeds at the first opening of spring work, and thus the seeds can be got in a week or ten days earlier than if the land were not plowed till spring. This will most likely be favorable for the crop of grain, and for a good catch of grass. If the land to be plowed is corn-stubble, it will be well to harrow it first, which will open and level down the corn hills, and the stubble will be the better turned under in plowing, and the plowed land have a smoother surface for seeding. The corn stubs, lying beneath the furrow through the winter, will not be likely to come to the surface to clog the harrow at seeding time, and thus the field being clean, the seeds can be worked in quite evenly. It has been my practice, for several years past, to plow such stubble land in the fall, and thereby considerable convenience has been found in getting the spring work along seasonably.

F. Holbrook.

Brattleboro', November 2, 1858.

SUCCESS OF THE STEAM PLOW.

During the last year, the Illinois State Board of Agriculture offered a premium of $5000 for the best *Steam Plow*, capable of doing the work well. We gather from an article in *Emery's Journal of Agriculture*, published at Chicago, that it was expected that three different inventions would be exhibited and tested at the State Fair at Centralia on the 16th of September, but only one was on the ground. That was

FAWKES' LOCOMOTIVE STEAM PLOW,

which excited great interest among the prairie farmers, and performed well. The machine and apparatus, with fuel and water, weighes only about seven tons, and by the use of a drum or barrel-shaped driver for propelling the locomotive, the difficulty of miring in soft soil, and slipping on hard, smooth ground, is overcome. The steam plow is easily managed, and is described as a cross between a locomotive and a tender, combining the essential elements of both, mounted on two guiding wheels and a huge roller. The prairie ground on which it was tried was baked as hard nearly as a brick, but the engine turned six furrows side by side in the most workmanlike manner. The excitement of the crowd was beyond

control, and their shouts and wild huzzas echoed far over the prairie.

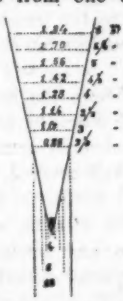
This plow was invented and exhibited by Mr. FAWKES, who resides in Lancaster, Penn., and is the first, we believe, ever set in motion in this country. On the broad lands of the prairies, it must prove, if entirely successful, of incalculable benefit.

For the New England Farmer.

UNDERDRAINING.

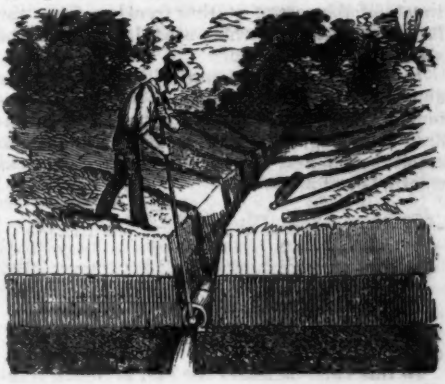
In executing a system of thorough drainage, as in all other work, it is necessary to make the original cost as slight as possible, in order to realize the greatest return in proportion to the outlay. That this may be done, it is necessary for the person having charge of the work to be familiar with all its details, both the scientific and practical, and to know the most effective use of labor, that he may attain the desired object by the shortest and simplest process. Very much work, however, must be done where the services of such a person cannot be readily obtained; it then becomes necessary for the proprietor to do his work as economically as possible, with such knowledge as can be obtained from those more familiar with the work. To such, I propose to make a few suggestions on a single practical point, which may be useful to them.

The only object for which trenches are cut in underdraining is that the pipe may be placed in its proper position, and as the amount of earth thrown out materially affects the cost of the work, it is of great importance that no more earth should be disturbed than is necessary to give the workmen room for a free use of their tools. The width at which trenches can be most economically cut is much less than is generally supposed, and the dimensions that are given below, though they may seem small, are the result of some experience and may be relied on, except in peculiar circumstances. The accompanying diagram shows the lines that may be followed in forming the cross section of a trench from two and one-half to six feet deep, and to admit a pipe from one to eight inches inside bore.



The full lines represent the sides of the trench, the horizontal dotted lines are at certain distances from the bottom, as represented by the figures opposite each at the side. The figures above each represent the width of opening at the surface for a trench of that depth, the widths are given in feet and hundredths, to reduce the decimal to inches, divide by eight, the result will be inches nearly. The ertical dotted lines show what earth must be removed in order to increase the width at bottom to receive the larger sizes. Suppose a trench is to be dug four and one-half feet deep, the number opposite 4½ is 1.42 or one foot five inches, which is the width of opening at surface.

If the trench is to be three feet deep it need be opened only one foot wide at the top, and with proper tools, it can be carried down to a width of about two inches at the bottom, though, of course, the foot of a man cannot come within six or eight inches of the bottom, in which case the pipes are laid by a man walking on the surface at the edge of the trench, who lifts the pipe, piece by piece, with a kind of hook made for the purpose, and lays them carefully in the trench, as shown by this engraving.



The cross section of the land, shown in front, represents it as having had the advantage of draining, by which the water-table is brought to a level with the bottom of the drain, as shown by the heavy shading. An "Irish spade" and a pipe-layer are shown lying on the ground.

If the work is done by a common spade, the width of opening at the top may be the same and the sides can be carried down as near together as the width of spade will allow. The "Irish spade" has been used by Judge French in opening trenches on his grounds in Exeter, during the past season, and with very satisfactory results. This tool being owned by many persons in this vicinity, who may undertake such work, I suggest that it will be well to use it in preference to the common spade.

As it is not necessary to the convenience of the workmen that the sides of the trench be carried down any nearer vertical than is represented in the engraving, they may be opened and carried down in the same manner, for each size of the pipe, until the sides have approached so near, that a pipe of the size required can be just passed between them; the cut may then be carried down vertically to the depth required. This allows much earth to remain which would be thrown out if the sides were cut straight down from the width opened at the top to the width at bottom. A skilful workman will dig the trenches with ease in this way, after some practice, though it may be a little troublesome at first. I am now having trenches dug in which the opening at the surface is even less in width, for the required depth, than is here given.

The labor of one man in a day of ten hours varies very much under different circumstances.

1. In hard, gravelly and clay soils, where picking is constantly necessary, a man will throw out only from three to five cubic yards in a day.

2. In ordinary clay and gravel, with an occasional use of the pick, he will throw out about ten cubic yards in a day.

3. In loose earth, without picking, or in shov-

elling after the picking of another, as in railroad excavations, a man throws out fifteen to eighteen cubic yards a day.

In the first case, a yard, or twenty-seven cubic feet, will be removed for twenty-five cents, by a man who works a day, of ten hours, for one dollar.

In the second case the removal of a yard will cost ten cents. This will be the basis of our estimate of the cost of cutting trenches, from the fact that most soils which need draining may be classed under this head.

In the third case, one yard will be removed for about six and one-fourth cents. The solid contents of earth removed from a trench one hundred feet long, of sufficient width at bottom to admit the smallest sized pipe, and of the depth as shown, is as follows—

Depth.	*Cubic Feet.*	*Cubic Yards.*	*Cost.*
2½ feet	127.5	4.72	$0,47.
3 "	174.	6.46	0,65.
3½ "	227.5	8 43	0,84.
4 "	288.	10.67	1,07.
4½ "	355.5	13.17	1,32.
5 "	430.	15.93	1,59.
5½ "	511.5	18.94	1,90.
6 "	600.	22.22	2,22.

To this must be added the cost of tools, trimming, and superintendence.

The quantity removed by increasing the width at the bottom of the trench so that it may admit pipes of the larger sizes, is very slight, being only one and one-fifth cubic feet in one hundred feet length, on increasing the width to three inches at the bottom. Quantity removed by increasing the width to four inches is four and four-fifths cubic feet; to five inches ten and four-fifths feet; to six inches, twenty and two-fifths feet; to eight inches, forty-five feet; and to ten inches seventy-nine and one-fifth feet.

The increased cost being for the three inch width one-half cent; for four inch, two cents; for five inch, four cents; for six inch, eight cents; for eight inch, seventeen cents; and for ten inch, twenty-nine cents.

The amount of earth removed by widening the trench for a larger pipe is the same in every case, without regard to the depth. Take an example: a trench is to be dug four feet deep for a one inch pipe, the cost of which will be $1,07 for one hundred feet, and a trench of the same depth for an eight inch pipe will cost $1,36. If the trench is to be six feet deep for a small pipe, the cost will be $2,22, and for the large pipe, $2,51; the increased cost in each case being 29 cents. A pipe with an eight inch bore requires a trench ten inches wide at bottom.

Judge French, of Exeter, whose work is done in a systematic and very skilful manner, had a trench two hundred and thirty feet long, four feet deep, with a width at top of twenty inches and at the bottom of four inches, cut in one day, by two men, at a cost of two dollars; by the basis used in our estimates, it would cost three dollars and forty-one cents, but the digging was quite easy on his land, the soil coming under the third case cited above, and would by that basis cost two dollars and thirteen cents, the estimate being thirteen cents more than the actual cost on the entire length, or less than one cent a rod.

These estimates call for no more work than any man with ordinary skill in handling the spade should do, though few trenches, probably, are so economically cut, except under the direction of a competent superintendent, who is familiar with the work. J. Herbert Shedd.

Boston, Nov., 1858.

For the New England Farmer.

ABOUT MANURES.

Mr. Editor:—I am a reader of your valuable paper, and find very many things worth practising. But I find that some things do not turn out as I expected. I built a barn some three years since, forty by forty-eight feet, with cellar under the whole, but did not get the dirt all out the first year or two, so I carted out what manure I made in the summer, (as I put up my cattle every night to make more manure,) and have found that this manure caused the corn to start much quicker than that which I take out in the spring, when hogs have been on it all winter, and it had been overhauled two or three times besides. It shows the difference even in the second year. Why is this? Does the action of the frost help to make the manure better? I carted out the manure at first for lack of room, and felt very sorry that I was obliged thus to do. But it proved a good operation.

Now that I do not need the room, shall I continue to cast out the manure, is a question with me, not being willing to believe, hardly, what I know to be true. It seems as though it were self-evident that manure kept out of the storms, wind and sun, six months longer, must be better—but crops show otherwise.

My hogs are of the Suffolk breed, too lazy to work, and do not root up the manure much, but run over it till it is as hard as it well can be. I don't know but that is the reason that it is not so good as that out in the free sunshine.

Alvan Ward.

Ashburnham, Mass., 1858.

Remarks.—There are so many varying circumstances attending the use of manures, that it is often somewhat difficult to fix upon any one special reason how a certain effect is caused. We believe a great loss is sustained by the farmer in consequence of using his manures in a too crude or unripe state; they are applied to the soil directly from the barn cellar, or from the heaps under the windows, mingled with coarse herbage, and in many cases imperfectly covered or mingled with the soil. But when well covered, the wet masses adhere to each other so that the manure cannot be minutely mingled with the soil, ready to be moistened by rains, and rendered solvent by chemical action, and prepared for the use of the plant.

In the case before us, the difference between the action of the manures hauled out in the autumn and that hauled out in the spring may be imputed to the greater mellowness and fineness of the former, making it more suitable to furnish food at once for the springing plant. The act of shovelling it into the cart, tipping it up, and

throwing it into a compact heap mingles and pulverizes it, and greatly assists in preparing it for use.

Manure carried out in this way, after the weather becomes so cool as to freeze the surface of the heap, will not shrink so much by evaporation as to amount to any considerable loss, while the inside of the heap is probably undergoing a gentle fermentation, which is highly useful to it.

For the New England Farmer.

BEE HIVES—REPLY TO "J. B. C."

Mr. Editor:—Controversy of any kind I very much dislike; it seldom amounts to much, and usually the great point at issue is lost sight of and the contest ends more in personal ill will than the advancement of truth, or the correction of error. But for the style in which "J. B. C." disposes of an article of mine published in the *New England Farmer*, some time ago, my "self-esteem" would not allow me to notice his article of October 2. During the past two years, I have written quite a number of articles for the *New England Farmer*, on bee culture, that is, as Norfolk understands and practices it. I might as well say, to begin with, that my "self-esteem" is large on this subject, and "common prudence" has not as yet, "J. B. C.'s" article notwithstanding, kept me from urging farmers and mechanics, indeed all, both men and women, boys and girls, all who have a rod of spare land, and strength enough to handle a Union Bee-hive, saying nothing about the unweildly hive called the Moveable Comb Bee-hive, to engage in this interesting branch of farm economy. I believe it not only profitable in the long run, but aside from the profits, especially interesting as a branch of natural history every way calculated to instruct the mind and elevate the soul from "nature up to nature's God," and to teach man wisdom, industry and forethought. Norfolk's self-esteem is so large that he believes he understands this subject as well as some who have published books relating to the "Hive and Honey bee," or who have made the U. S. Patent laws on bee hives a subject of investigation, and if "J. B. C." has been a careful reader of his articles, and has exercised "common prudence," he has found that Norfolk gives only his own views, and his "self-esteem" leads him to believe that what he has written will bear examination, and has *truth* for its foundation. If "Wyoming" will visit King Oak Hill, Norfolk stands ready to prove the truth of all he may have said on bee-culture, or hives.

It seems from "J. B. C.'s" article, that he is interested in the Langstroth hive. I infer this, at least, from his manner of writing, and his intimate knowledge of the history of the patent, and the contest between Clarke and Langstroth regarding the same. I confess that I know nothing about either in this respect. I gave my opinion of the two, based on my own experience, and that of others, and it seems to me that the "self-esteem" of "J. B. C." carried him away in writing his laudatory article in favor of Mr. Langstroth and his hive, which a little more "common prudence" would have prevented him from doing. Norfolk, in his own personal experience, does not believe "that the hive recommended by the most scientific apiarian on this side of the Atlantic" is the best, nor does he admit the assertion of "J. B. C." to this effect to be true. "Self-esteem" and experience prevent this, and reading with practical use disprove it. I have stated that I am in no way interested in any "patent" hive whatever. I am not—on the contrary, I have but little faith in any hive with "patent" attached to it; it smells of humbug, and in the article to which "J. B. C." has taken umbrage, I gave my preference to Clarke's hive, and I stated that, "if as is stated, Mr. Langstroth," &c. This was, and is now my opinion, which I stand ready to prove. I will say that my authority for this language is Mr. C——, who, I am free to say, is interested in the Union Bee-hive, but not to a greater extent than is "J. B. C." for the Langstroth, as I understand his language in his article of October 2. If "J. B. C." had read the work of Huber, "common prudence," one would have thought, should have prevented him from saying the tri-angular comb guide was invented in England, or described by him, as used by Clarke in his Union hive. Huber describes quite a different affair. "It is not my purpose in this article to analyze the Langstroth hive, or exhibit wherein it is inferior to the Union, or to point out" the many good points which the Union hive combines in practical bee-culture. Suffice it to say, it has received the "encomiums of Norfolk," and he ought, and thinks he has, put it to the test, and is "qualified" to recommend it to the readers of the *New England Farmer*. I express this opinion with the more confidence, as I have now in my apiary five different patents and seven different kinds of bee-hives. I am "familiar" with most of the patent bee-hives used in this section of country, and while I thus express myself, I believe Mr. Quinby describes as good a hive as any one need have for all practical purposes, and I confess it was with much surprise I learned from "J. B. C." that he has abandoned his own superior hives, and which he so strongly recommends in his excellent work on bees. Most of his instructions are to the point, and every chapter bears the marks of practical experience. My doubts were so strong as to the statement of "J. B. C." being a fact, that some two weeks or more since I wrote to Mr. Quinby to ascertain his position in this matter; as yet I have received no reply to my inquiry, therefore I will admit the statement of "J. B. C". as true. Granting then that Mr. Quinby is so much in love with the Langstroth hive as to use it in preference to his own, or any other, this only proves what every one's experience teaches, that the "parson often preaches what he does not practice." His instructions are not for himself, but for others. I can only say to the readers of the *New England Farmer* that such advice as I have from time to time given them on "hives and bee-culture," has been put to a practical test, and in accordance with that test. So I would advise, nothing more—nothing less; and when a thing is a failure with me, or in my hands, I so enter it on the record, and instruct accordingly.

Item.—In this town and vicinity bees have done poorly this season. They swarmed well, as a general thing, but have nade little or no surplus honey. Rev. Mr. Rockwood, of North Weymouth, I am told, out of nine stocks in the spring

has had but one, at most two swarms, come off. He uses the Langstroth hive. I infer, therefore, that a wet, cold season is a poor one for honey.

King Oak Hill, Oct., 1858. NORFOLK.

REMARKS.—We have only to say in regard to this matter, that we hate quarrels most cordially, and advise all our correspondents not to be too sensitive when their positions are attacked, and that we believe there is not a purer, more noble-minded man in New England than Mr. Langstroth, and no other man who has given the subject of Bee-culture so much thought and investigation, and brought to bear upon it so much varied and sound learning.

For the New England Farmer.

U. S. AGRICULTURAL SOCIETY.

[Letter from our own Correspondent.]

Richmond, Va., Oct. 29th.

GENTS.:—Prompted by curiosity and love of agriculture, and being desirous of seeing this part of our beloved country, noting its agricultural resources, examining its products, both vegetable and animal, and observing its people, and more especially its farmers, I made the celebration of the sixth anniversary of the National Agricultural Society in this place, an occasion for coming hither. In doing so, I feel amply repaid for the time and the money, I will not say spent, but invested; for the money or time which one employs, in the legitimate pursuit of useful knowledge, becomes, as it were, stock, whose dividends are in proportion to the skill of the inventor and the investment. Some are only satisfied as they see their bank stocks or other similar investments multiplying, being careful to invest little in books, papers, or other means for storing the mind with useful knowledge, which, if rightly employed, gives power over both matter and mind. There are others who look upon money as a means to aid in the acquisition and diffusion of knowledge—a nobler purpose than hoarding.

Having enjoyed rare opportunities for observation concerning what relates to agriculture, horticulture, stock breeding, implement making, &c., in this southern region, I propose to furnish your numerous and intelligent readers some account of what I have seen, occasionally interspersed with my own reflections thereon.

Nearly all who visit the South, come to the conclusion that its natural resources for wealth, like those of the West, are in the soil, consequently the business of the people is the tillage of the soil, for the purpose of producing wheat, maize, tobacco, cotton and the sugar cane, together with stock breeding, as a lucrative branch of farming The breeding of horses and mules is a productive source of income by those who understand it. So of cattle, sheep and swine—for wool-growing is becoming quite a profitable business in the "Old Dominion," as I was informed by experienced farmers.

But the first thing to be attended to and what more immediately concerns your readers, is, to hear some account of the National Fair by one who was there. In doing this I shall endeavor to give an impartial narrative thereof.

The fair was held on the grounds near the city, and well adapted for the purpose. There having been little rain here for four months, it is dry and very dusty. Crops here have suffered from the drought very much, and therefore the display of vegetables is not as good as it otherwise would have been. As for fruits, there are none scarcely—they having been destroyed by late frosts. The South will almost entirely depend on the North for apples, which will serve to keep the prices up, though the crop be a fair average at the North.

The show of stock was not large, as to numbers, but good, aye, superior in some classes, as to quality. This will apply with peculiar distinctness to the Shorthorns, Devons and Jerseys. The Ayrshires, Herefords and natives were not very well represented. There were some very superior grades of the Shorthorn breed, which had been bred back until they were 15-16 Durham. Of these were steers and oxen of extraordinary size, symmetry and beauty, thus seeming to confirm the notion, that no other cattle mature so soon as the Shorthorns and their grades.

The Devon herd, exhibited by a Maryland farmer, was very fine. The enterprising husbandman, Capt. Strandling, like S. C. Ludington, of Western Virginia, the exhibitor of Durhams, had occasion to feel proud of the skill in cattle-breeding, which his Devons demonstrated. Capt. S. had one cow, "Matilda," which was the best cow of that race I have ever seen, and though she did not receive the first premium, to which she was so richly entitled, she was crowned with a wreath of flowers, by the ladies, on leaving the grounds, as indicative of their estimation of her excellence.

The Jerseys were the next best lot. They did not meet the approval of the farmers generally. A Kentucky farmer called them "scrubs" in appearance. It is true they would thus impress a western breeder of Durhams.

Ayrshires and Herefords not well represented, and those on the ground were not such as to impress those unacquainted with these varieties, very favorably.

Natives but few and not superior.

Sheep, swine, poultry and horses all very well represented, except the swine. VIATOR.

A FARMER'S LIBRARY.

Dr. Johnson being once asked whom he deemed the most miserable, replied, "The man who cannot entertain himself with a book on a rainy day." Were the question put, What farmers are likely to make the most rapid progress and improvement in husbandry? the answer would be, other things being equal, those who read most on the subject of their vocation. A man who reads little, no matter what his vocation is, will be likely to think little, and act chiefly with reference to tradition received from former generations, or else in imitation of what is going on about him. There is always hope of a man who loves reading, study and reflection. Not all who buy books liberally and patronize the press generously, are readers. There is a class of fancy book buyers who purchase freely and expensively, but who

read little and profit nothing from the stores of knowledge treasured up in their libraries. Fine collections of books nicely arranged on shelves may beget desires of covetousness, but can impart little or nothing, only as they are read, studied, and referred to.

Every farmer, whether rich or poor, learned or unlearned, should have a collection of books on agriculture, horticulture, and the several subjects more or less intimately connected with the objects of his special pursuit. A few good books costing but little, should make the beginning of the farmer's library.

For the New England Farmer.

WILLIS'S PATENT STUMP PULLER.

We have a great deal of hard work to be done in this country, and comparatively few hands to do it. He is a public benefactor, who invents a new mode by which science may be substituted for human muscles, in the fulfilment of man's mission to make the earth fruitful and beautiful.

We fight a hard battle with hands and small tools, alone, against the great forest trees. We easily enough cut away the top for timber and fuel, but the ugly stump remains, and we are too fast a people to sit down quietly and wait the process of "a mild decay" to destroy it, and too economical to dig it out by hand, and too neat in our notions of good husbandry to think of tilling among such obstacles.

Willis's machine solves our difficulties. It pulls out the stumps by main force, asking no favors, if you will only find a place where to fasten a chain to a root strong enough to hold. The exhibition by the inventor, at Exeter, last Friday, was witnessed with universal satisfaction by a large number of persons. Some twenty-five large stumps were extracted in a few hours, some of them yellow pines, recently cut, and some white pines, whose wide spreading roots brought up with them tons of clay from their beds. The power of the machine seems almost without limit, by shortening the short arm of the lever. A single yoke of oxen, in five minutes' time, easily uprooted the largest trees upon our lot. Four men, in one instance, with no help of cattle or other power, turned out a stump which four yoke of oxen could not, without machinery, have started from its bed.

One solitary pine, which stood alone, was left for a last victim. Its wide-spreading top towered at least sixty feet in the air, and its trunk was about two and a half feet in diameter. A chain was attached to it about twenty feet from the ground. The oxen were put moderately to their work. With a steady, irresistible power, the tall tree was drawn from its erect position. The ground for a space of twenty or thirty feet about it began to rise and heave as with an earthquake. The remorseless giant tightened his grasp, till slowly upturning its huge roots to view, down sank "the evergreen pine" to rise no more.

It is fearful, almost, to witness the exercise of such power, but pleasing to see it subjected so perfectly to man's power for good.

The day following the exhibition was rainy, but the next day, which was the Sabbath, saw, perhaps, as many spectators on the field of operations, as would have filled a church, wondering at the sudden upturning of those old fogy stumps, in this radical manner.

Our farm has somehow grown very attractive within these few days. The ladies, even, or perhaps the fairies, have left in the moist, soft soil, their delicate footprints, and we know, at least, of one fair daughter of an eminent farmer of the Green Mountain State, whose bright eyes beamed brighter in admiration of the work of this new civilizer.

And so we wish Mr. Willis all success with his invention. In moving stones or buildings, in propelling a ditching machine, which somebody must invent very soon, for underdraining, in any work where immense power at low speed is required, this is, of all others, the machine.

In another column will be found the advertisement of Mr. Willis, which will give all needed information on the subject.

Exeter, N. H., Nov. 1. H. F. FRENCH.

For the New England Farmer.

MANUFACTURE OF BREAD.

If there is any foundation in truth and nature for the standard phrase, "Bread the staff of life," surely a little discussion, will be profitable now and then, on customs which seem to have in most instances become nearly or quite stereotyped. Hence I was glad to see, in a late number of the *Farmer*, a receipt or two for manufacturing "brown bread." On a subject of so much importance I love to see the smallest symptom of progress.

It is indeed true that I am opposed to all kinds of receipts for bread-making which involve the *necessity of fermentation* or raising; still, if this stupid custom must be continued, I wish to have the work accomplished in the best, that is, the least objectionable manner.

But what is the reason, Mr. Editor, that a community like our own can see no beauty in simplicity? Why is it that almost everybody revolts at the idea of making bread for the table by merely putting together the meal and water and baking it? Why is it that William Hunt's little book, entitled "Good Bread—How to make it light without yeast or powder," is so little admired? Why, sir, if I don't mistake, this little book, which only costs ten cents and a postage stamp of one cent, and which in any sensible housekeeper's hands is richly worth ten dollars, though it has been published several months, has scarcely sold, as yet, to the extent of ten thousand copies. One hundred thousand of it, to say the

least, ought to have been circulated long before this time.

It is not a little remarkable that while Mr. Hunt, a plain and almost unlearned man, has been slowly working out the problem, How to have good bread without fermentation, science, unknown to him, has been accomplishing the same thing the other side of the water. For we learn from the *Illustrated Inventor*, that Dr. Danglish, of Great Malvern, in England, has patented an improvement on the preparation of dough, from which is manufactured an absolutely pure bread, which, without fermentation, is so sweet and tender as to surprise everybody who has tasted it. The advantages which Dr. Danglish claims, in its behalf, are the following:

"1. There is a saving of the whole of the waste caused by fermentation, which averages fully ten per cent. Thus ten per cent. more bread is made out of a sack of flour, than by the old process.

"2. The process, instead of occupying eight to ten hours (in raising, moulding, baking, &c.,) is completed in half an hour.

"3. The cost of machinery and gas is less than that of the yeast used in the old process.

"4. The dough requires scarcely any handling to form it into loaves.

"5. The bread is absolutely pure. It is simply flour, water and salt.

"6. Finally, should the whole of the bread in the kingdom be thus made, a saving would be effected of an amount equal to our (the British) entire importation of foreign wheat."

We do hope, most sincerely, that this subject will attract public attention both here and in England; especially, as it can be no longer pleaded that it has been agitated by none but the unscientific and unskilful. If there be a discovery based on the principles of sound science, both chemical and physiological, it is this, which teaches us how to make good, light, sweet and perfect bread of simple meal and water.

Auburndale, Sept. 4, 1858. W. A. Alcott.

LIME ON ORCHARDS.

The value of lime for many purposes in agriculture, is no longer a theoretical question, but an admitted *fact*. On orchards, its effects have been very surprising—and such, indeed, as to surprise even the most incredulous. For many uses, lime in the stone is preferable, if it is of a character that admits of its being reduced to a condition sufficiently fine for its application, for it then contains about fifty per cent. of carbon, a principle which enters largely into vegetables. Calcination, or burning, drives off the carbon, and renders caustic lime mild. In its freshly-slaked state, its application is, in most cases, attended with disadvantage, as its causticity proves harmful in many ways. In regard to the application of lime on orchards it may be remarked that the fall is perhaps as favorable a season, on many accounts, as can be selected. Its effects are slow and lasting, and when spread on orchard grounds in August, or even in September or October, it will be felt the following year; whereas if applied in the spring, no advantage would accrue till the subsequent year, which would be a dead loss to the owner of one year's use of the pecuniary capital involved in the outlay of the experiment. In some cases, the favorable effects of lime have been clearly apparent for twenty years.

Old lime from the walls of buildings, is an excellent stimulant for fruit trees of all kinds; it acts immediately, and it acts long. In one case, a farmer who was engaged in repairing his dwelling, ordered a portion of the old plastering taken from the wall of one of his rooms, to be thrown from a window, where it was accidentally brought in contact with a plum tree which had always been unproductive, and a mere "cumberer of the ground." The subsequent year, however, it was filled with fruit. This change was owing to the lime, doubtless, as similar results have followed its application in various, indeed, in innumerable cases of a like character. We advise every person, therefore, who is the owner of an old and decayed orchard, to lose no time in giving each tree a dressing of lime, or, better still, if he can procure it, of old plaster. A peck to a tree of middling size, and half a bushel to a large one, is sufficient, according to the experience of many; but though we would by all means recommend the application of even these small quantities when larger quantities cannot be procured, yet we should sooner advise a bushel and a half. We have no more faith in starving a tree or a hill of Indian corn, than we have in starving an ox or a horse. The "penny wise and pound foolish" policy, adopted by so many, is a bad one for the farmer. It always results in loss.

AMERICAN PLOWS.

But a few persons are probably aware of the demand upon New England skill and industry for articles resulting from mechanical labor, and made of wood and iron; they are generally much better informed upon the subject of cotton and woollen goods, because they are manufactured by the aggregation of more capital, and have, perhaps, been considered more of a leading interest among our people. But we do not excel more in the latter than in the former, and the demand for each is much nearer alike, than most persons suppose.

The amount of furniture, such as chairs, bedsteads, sofas, bureaus, desks, tables, book-cases—of boots and shoes, hollow ware of wood and iron, &c. &c., is enormous, that is annually sent out from New England.

The demand for *agricultural implements* is now beyond all precedent, and the wide world seems to have its arms open to receive them, and with purse extended to pay the bills. And the demand is not the most active in the oldest settlements, but in new regions, Oregon, California, Vancouver's Island, Africa, Chili, the regions of the Amazon, and even the islands of the Pacific Ocean.

We learn that a few days since the manufacturing house of Nourse, Mason & Co., of this city, accepted an order to furnish a large amount of plows of various patterns, which order has

been filled in an incredibly short space of time, and they are now on their way to Africa, and perhaps to turn up the fertile soil which has so long been supposed to be an inhospitable desert.

Mr. Livingstone, the intrepid African explorer, will find a greater *civilizing power* in these plows, than he could in as many batteries and soldiers as sat themselves down in front of the Malakoff Tower!

In addition to this monstrous exodus of plows for the East, we also learn that within a twelvemonth, *two thousand plows*, with steel plate mould-boards, have been sent to one customer of this house, for a single port, with a prospect of still heavier orders in the future.

What worlds of grass and grain and good things will spring up in the track of these pioneers of civilization! What abodes of comfort and plenty, and refinement and moral power, and what influences will flow from them to bring nations into harmony, to make glad all people, and to cover unbounded lands with freshness and beauty.

"God Speed the Plow."

SULPHUR FOR STOCK.

The benefit derived by stock from the use of sulphur is not sufficiently well known.

Most farmers are well aware that there are certain seasons in the year when animals of every description on the farm—from the finest colt down to the poorest calf—become afflicted with (in plain English) *lice* (one of the ten plagues of Egypt,) or *"licks."*

To become free from any trouble or injuries from the attacks of these pests, we have only to put sulphur in the feed or salt of stock so infested; or mix a little in lard, and rub it on the small and young animals. A speedy cure may be depended upon.

I think a teaspoonful two or three times a week—four or five times a year—will generally keep hogs and sheep entirely clear of such vermin.

The above article is more particularly applicable to sheep and hogs. It has been said, and, I believe, with some show of truth, that sulphur has another effect on sheep; that, given plentifully at the beginning of warm weather, as above directed every other week, till shearing time, it opens the pores of the skin, curing cough, and whitening the wool; and, as evidence of which, look at the big, snow-white sheep on the mountains of Virginia, in the vicinity of the sulphur springs.—*Ohio Valley Farmer.*

Feeding on Earth.—The earthworm not only inhabits the earth, but also feeds upon the element in which it exists: and although some naturalists have declared that it derives its nutriment from the roots of plants, yet this statement, according to the most reliable authority, is now pronounced to be a pure fable. The soil is, as you will probably be aware, impregnated with decaying organic substances of various kinds, and in order to secure these for its sustenance, the worm gorges itself with earth; the nutritive constituents are extracted in its stomach by the digestive process, and the indigestible portion ejected in little worm-shaped masses, well known to gardeners and others as "worm castings."—*The Earthworm and the Housefly. By James Samuelson.*

THE CLOSE OF THE YEAR.

"Stern Winter throws his icy chains,
Encircling nature round;
How bleak, how comfortless the plains,
Late with gay verdure crowned!"

The Year that is now about closing upon us, has not been marked by any general fatality to the herds or crops of the farmer, nor has any sweeping scourge decimated his household and brought universal sorrow upon the land; but warm suns, fruitful showers, and healthful breezes, have invigorated himself and brought to perfection the crops which he had committed to the earth in confidence and hope. These crops have been abundant, and the season has favored the Harvest, so that his garners are full, and the means of comfort and comparative independence are secured through the more rigorous months of the year.

The Year has been one of progress in nearly all the departments of the farm. There is a better appreciation, in the first place, of the advantages to be derived from the application of scientific principles to our labor, and a better disposition on the part of the farmer to avail himself of such helps. The stony walls of his prejudices have been modified, or broken down, by the introduction of new machines or new modes of culture, once considered as useless innovations, but upon trial, found to be important and profitable changes.

Another gain is in the opinion which has taken strong hold of our people, that we have heretofore *cultivated too much*, and have *not done it well enough*—that there is great loss in working over two acres to get sixty bushels of corn, when we might have got it from one.

More attention has also been paid to our cattle, in obtaining breeds adapted to our climate, and means of feeding them, and to the manner of managing them as regards health and comfort, so as to obtain the largest possible product from a given cost.

New devices in plows, mowing and reaping machines, hoes, seed-sowers and draining tools, promise to mitigate human toil, while they will increase the profits of the farm.

Another improvement, which promises happier results than any, or all of these combined, is the belief which is rapidly gaining ground, that it is as advantageous, and as important, that a farmer

be educated for the business which he is to follow, as for the merchant, lawyer or physician. That unless he understands something of the laws of chemical action, of the physiology of animals and plants, of the effects of heat and cold, and moisture in his soils, and of the cost and comparative value of his various crops, he cannot reap those benefits from his efforts, that he might if his labors were directed by a greater degree of intelligence and skill. The domestic labors of the farm, those of the house, are almost materially relieved by various devices, thus giving both sexes more frequent opportunities for leisure, recreation and study, than before, and consequently of adding essentially to the sum of human happiness.

It has been a year of general prosperity to most of us in an avocation surrounded with more charms, we believe, than most others possess—we hope it has in that higher advancement, without which our worldly effects are of little account. For if our labors and aspirations are rightly directed,

> "We cannot toil in vain;
> Cold, heat, and moist and dry
> Shall foster and mature the grain
> For garners in the sky."

Let our hearts rise to Heaven with profound gratitude and thanksgiving, for the blessing that we enjoy in the occupation of the soil, for abundant harvests, for association and opportunities of improvement, and for that general advancement in education and the arts of peace which tend to elevate and adorn our race.

And now, while the last sands of the Year are ebbing, we can only pause to say to the tiller of the soil that our earnest sympathies are with him and his household in all the departments of his labor; that his interests are our care, and that the sympathy and good fellowship which has existed through so many years between reader and writer, shall be sustained on our part by a sincere devotion to the cause in which we are mutually engaged.

PROSPECTS.

We have very little to say in regard to the *future*, in relation to the *Farmer* Its present prospects are fair and encouraging, and it is steadily finding its way into new homes and around new fire-sides, where it has never penetrated before. The efforts of Publisher and Editors will constantly be devoted to the same end, viz., to make both the Weekly and Monthly paper, *the medium of useful knowledge*, so that the reader shall be actually benefited by its perusal, to a degree altogether disproportionate to its cost. We are enabled to print a cheap paper by distributing large numbers, and the larger that number is, the more valuable may the paper be made.

We propose no material change for the future; but to improve, if we can, both in matter and style; shall introduce some new illustrations of houses, barns, fruits, flowers, machines, implements, and stock, and record whatever may come to our knowledge that is new, if it promises to be useful to the reader.

We believe in progress; that the world is not yet half as wise as it may be, and as by wisely directed efforts, *it certainty will be.* It becomes all to watch, and wait, and hold fast to that which is good, until something is found that is better, and then to hold on to the better.

We shall try, on our part, to amble along with the reader at an easy gait, by growing fields and plashing waters, or wherever fruits or flowers or forests and cooling shades attract and instruct; or if the paths of science allure, we shall not fear to travel in their light, and shall find pleasure and profit, both to the reader and ourselves, in ambling along where they may lead.

In the future we look to make many new acquaintances among our readers, as we have done the past year, and in mingling with them have found new sources of enjoyment, and new means of adding to the value of the *Farmer*. Our interest in the cause of agriculture can scarcely be increased. That love for the farm, and for rural life which sprang up in our bosom in boyhood, has never been dimmed by circumstances or time,—and the glorious manifestations of Deity which ever surround the farmer in so many varied and beautiful forms, still allure us with mild and steady light, to spend as much of life as possible on the farm.

The liberality, as well as the interest of the Publisher, will prompt him to spare no pains to give the *Farmer* all that practical value which the cultivator of the soil needs,—while the ample means which he has secured by a life of energy and industry, will enable him to secure all the advantages for his publication that any can command.

So we part with the Old Year without any regrets that it is gone, and enter upon the New Year, with cheerful hopes of being useful to the world yet a little longer.

A NEW AXLE-GREASE.—We are most kindly disposed to our friends, Messrs. Hucks & Lambert, who have made the best axle-grease in the world; but we only wish to hint that *castor-oil* is one of the best articles for wheel grease in its pure state; it will last long and operate most remarkably. Let it be tried, and then raise the castor oil bean and make our own axle-grease.—*Cal. Farmer.*